Operator manual

Simrad PI50

Catch monitoring system

KONGSBERG

Simrad PI50

Operator manual

Release 1.0.1

This manual provides you with the basic information required to operate the Simrad PI50. For a more detailed description of the operation and functionality, including menus and all parameters, refer to the *Simrad PI50 Reference manual*.

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License information

When you have obtained the necessary licenses to operate the PI50, we strongly advice that you write down the hardware ID and the license codes on this page.		
Function	**Purpose**	**Code**
Hardware ID:	N/A	
License code		
License code		
License code		

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Support information

If you require maintenance or repair, contact your local dealer. You can also contact us using the following address: simrad.support@simrad.com. If you need information about our other products, visit http://www.simrad.com. On this website you will also find a list of our dealers and distributors.

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About this manual

Purpose

The purpose of this operator manual is to present the descriptions and procedures required to operate the Simrad PI50 in a safe and efficient manner.

It is not within the tasks of this manual to describe all functions and parameters in detail. It is therefore also important that you study the other documents that are provided with your system. For detailed descriptions of all functions and parameters, refer to the *Simrad PI50 Reference manual*.

Click “Help”!

Installed on your Simrad PI50 you will find a comprehensive on-line help system. You may not find it in your language, but everything you can read in the *Simrad PI50 Reference manual* can also be found in the context sensitive on-line help.

To access this information click **[?]** on the **Title Bar** menu, or the **[?]** button in one of the dialogs.

Note that when you open the help system it will place itself on the top of the display presentation!

References

The following user manuals have been provided for the Simrad PI50. English manuals are provided with the PI50 when it is shipped. When available, manuals in other languages may be downloaded from http://www.simrad.com.

- **English:**
  - Simrad PI50 Operator Manual **[328457]**
  - Simrad PI50 Reference Manual **[328458]**
  - Simrad PI50 Installation Manual **[328459]**
- **Spanish:**
  - Simrad PI50 Operator Manual **[349277]**
  - Simrad PI50 Reference Manual **[349276]**

Simrad PI50

Study this chapter to familiarize yourself with the Simrad PI50.

Topics

- *Important* on page 8
- *System description* on page 9
- *System diagram* on page 10
- *System units* on page 11
- *Support information* on page 14

Important

As with all other advanced instruments, there are a few important things that you must be aware of.

When the PI50 is not used

When you do not use the PI50, switch off the display and the computer.

You may switch of the PI50 Sensor Receiver too. It is not equipped with an on/off switch, but you can unplug the power supply if you are not going to use the PI50 for a while.

If something breaks down

If you believe that something has broken down, contact your local dealer. He will be able to assist.

A list of all our dealers is provided on http://www.simrad.com. If you are unable to contact a dealer, observe the support information in this chapter.

→ *Support information* on page 14

When you switch off the PI50

You must NEVER switch off the PI50 by means of the on/off switch on the computer.

You must ALWAYS exit the PI50 application by clicking the **Exit** button on the **Title Bar**.

If you power down the PI50 by means of the computer switch you may damage the software application and the interface parameters to external devices.

System description

The Simrad PI50 is designed for the professional fishery community implementing the latest innovations. The catch monitoring system allows you to stay in full control of the gear and its behaviour. The system is designed to be equally useful for all fishing types. Bottom trawlers, pelagic trawlers, purse or danish seiners - whatever kind of gear you use, all vessels can take advantage of the functionality provided by the PI50.

The Simrad PI50 comprises the following units:

- Colour display
- Processor Unit (The PI50 Marine Computer may be provided)
- Sensor Receiver
- Hydrophone

The hydrophone is mounted under the vessel's hull.

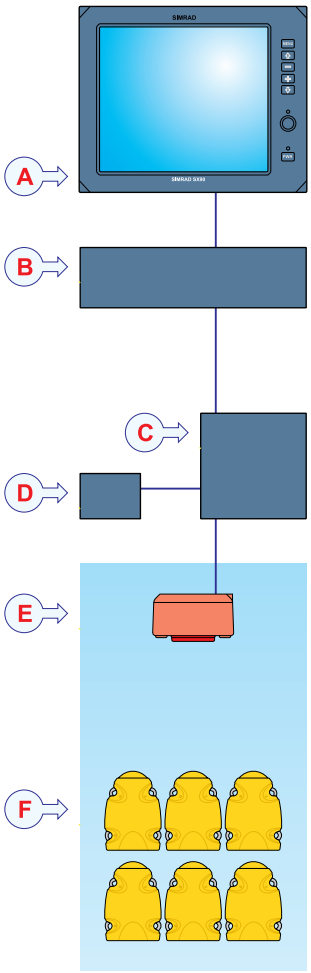
The system further comprises a number of small and robust sensors measuring the conditions on your fishing gear. The Simrad PI50 can receive information from six sensors simultaneously.

One or more sensor battery chargers are also required.

The sensors are powered by built-in rechargeable batteries. They are housed in titanium casings, and designed using advanced shock absorbing materials. The information collected by the sensors are sent through the water to the hydrophone by means of coded sound waves. The Sensor Receiver amplifies and decodes the information, converts it to digital format, and sends it to the Processor Unit (computer). The computer interprets the information, and finally presents it to you.

System diagram

Figure 1 System diagram



A basic system diagram is provided. Interface capabilities and power cables are not shown.

A *Display Unit*

B *Processor Unit*

C *Sensor Receiver*

D *Power Supply*

E *Hydrophone*

F *Catch Monitoring Sensors*

Additional units include:

- Sensor Battery Charger
- Loudspeaker

A loudspeaker is optional, and it must be installed if you wish to hear the audible alarms. Note that a loudspeaker can not be connected directly to the computer. An amplifier is required.

System units

Each system unit is described in more detail.

Colour display

Any commercial colour display can be used with the Simrad PI50 system provided that the display meets the basic specifications.

These specifications are:

- **Minimum screen resolution**: 1280 x 1024

Processor Unit

A dedicated maritime computer may be provided with the Simrad PI50 system.

Figure 2 PI50 Marine Computer

When this computer is supplied, it is readily set up with all necessary software. The computer is customized by Simrad to contain no moving parts.

The computer is normally mounted in the wheelhouse. If you wish to take advantage of the audible alarms offered, the computer must be installed in such manner that the built-in loudspeaker can be heard. As an alternative, an external powered loudspeaker can be connected.

Note

The PI50 Marine Computer does not contain any fans. It will be very warm, even during normal operation.

Any commercial computer can also be used with the Simrad system provided that the computer meets the basic minimum specifications.

Minimum computer requirements

Observe the following minimum computer requirements.

- **Operating system:** Microsoft® Windows® XP® (32–bit) or Microsoft® Windows® 7 (32–bit) [1]

  On new installations, we recommend that Microsoft® Windows® 7 is used.
- **Processor speed:** 2 GHz Dual core

1. The PI50 software does not support Microsoft© Windows© NT or older operating systems.

- **Memory:** 2 Gb
- **Free hard disk space:** 30 Gb
- **Chipset:** Intel
- **Graphic adapter:** DirectX9.0c compatible with Direct3d and OpenGL[2]
- **Interfaces:**
  - One serial (RS-232) interface to communicate with the Receiver Unit

    Note that “PCI Express” serial interface boards are not supported.
  - One Ethernet interface to communicate with ship’s local area network (if required)
  - One or more serial line interfaces (depends on how many interfaces that are required for the specific integration)

  Note

  USB to Serial adapter are not supported under Windows XP.

- **Display resolution:** 1280 x 1024[3]

Sensor Receiver

The Simrad PI50 uses a custom built receiver.

Figure 3 PI50 Receiver

The PI50 Sensor Receiver is housed in a small cabinet. All necessary input and output sockets easily available. The unit is powered by a small external power supply.

The Sensor Receiver provides the following interfaces:

- Serial line cable to the Processor Unit.
- One hydrophone
- External power supply

The maximum length of the serial line cable between the Sensor Receiver and the Processor Unit is 50 meters.

2. A large number of commercial graphic adapters are available, and Simrad has not tested all of them. Even adapters meeting the minimum specifications may in some cases prove to fail with the PI50 software. We welcome any feedback with comments or experiences with graphic adapters.
3. This is the minimum resolution. As with all other Windows applications, the PI50 software will work with higher resolutions, provided that it is supported by the graphic adapter in the computer and the display connected.

Hydrophone

Two hull mounted hydrophones are available, one for purse seining operations, and one for trawl operations. You can install both, and then select active hydrophone by means of a selector box on the bulkhead.

Purse seine hydrophone

Figure 4 Purse seine hydrophone

The hull mounted hydrophone for purse seining operations has a 90 degrees horizontal beam and a 30 degrees vertical beam to provide the PI50 with optimal reception from the sensors on a purse seine.

This specific beam pattern is especially suited for purse seining and the wide coverage area reduces the need for careful alignment.

Trawl hydrophone

The hull mounted hydrophone for trawling operations has a 50 degrees horizontal beam and a 30 degrees vertical beam to provide the PI50 with optimal reception from the sensors on a bottom or pelagic trawl.

This specific beam pattern is especially suited for trawling and the wide coverage area reduces the need for careful alignment.

Portable hydrophone

Figure 5 Portable hydrophone

A portable hydrophone is also available. It is designed as a temporary measure until a fixed hydrophone can be installed at the vessel's next planned dry docking. It has an omnidirectional beam and a 50 meter integrated cable.

The cable is sheathed in polyurethane providing robust external protection to compliment its 150 kg tensile strength.

The cable is supplied on a reel for convenient retrieval and stowage, and is equipped with a plug for easy attachment to the Receiver Unit.

Catch monitoring sensors

A large selection of sensors can be used with the PI50 system.

The current software version supports the following sensors:

- Bottom Contact
- Catch
- Depth
- Spread
- Temperature
- Height
- Spread/Depth
- Twin Spread
- Height/Depth
- SeineSounder
- Geometry

Related topics

- *Sensor views* on page 37
- *Trend views* on page 59
- *How to select and set up the sensors* on page 72

Support information

If you need additional technical support for your Simrad PI50 you must contact your local dealer, or one of our support departments.

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- **Website**: http://www.simrad.com

Getting started

This chapter describes how to get started with the basic operation of the PI50.

Topics

- *Power On/Off procedures* on page 16
- *Using the trackball* on page 17
- *Sensor presentations* on page 18
- *Starting normal operation* on page 19
- *Title Bar* on page 25
- *The menu system* on page 26

Power On/Off procedures

Observe these procedures to switch the Simrad PI50 on and off.

Power on

This procedure explains how to power up the Simrad PI50.

1 Power up the PI50 Sensor Receiver.

The PI50 Sensor Receiver is not fitted with an on/off switch. You may leave the unit permanently powered up. If you are not using the PI50 for a long period of time, disconnect the power supply.

2 Power up the PI50 computer and the display.

Wait for the computer to start up.

3 If necessary, double-click the PI50 icon on the desktop to start the program.

4 Wait while the PI50 program starts on the computer.

During the program initialisation, a dialog appears to let you choose from the current user settings available on the PI50. The dialog is only visible a few seconds. You do not need to make a choice here. You can select user setting at any time by means of the **User Settings** dialog on the **Main** menu.

5 Observe that the PI50 starts.

The PI50 starts up using the same operational parameters as the last time you used it. If these parameters are acceptable, continue operation. If you wish to alter basic operational parameters, see the dedicated procedures.

→ *Starting normal operation* on page 19

Power off

This procedure explains how to power off the Simrad PI50.

Note

You must never switch off the PI50 only by means of the on/off switch on the computer. This may damage the software or the interface parameters for external devices. You must ALWAYS use this procedure.

1 Click the **Exit** button on the **Title Bar** in the top right corner of the PI50 presentation.

2 Observe that the PI50 application closes down.

3 If the computer does not switch itself off automatically, use the functionality provided by the operating system to switch it off manually.

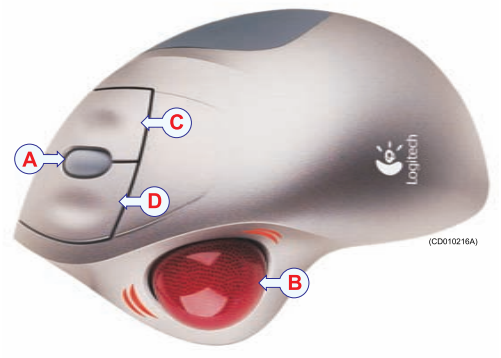
4 Switch off the display.

5 Switch off the PI50 Sensor Receiver.

The PI50 Sensor Receiver is not fitted with an on/off switch. You may leave the unit permanently powered up. If you are not using the PI50 for a long period of time, disconnect the power supply.

Using the trackball

Figure 6 Trackball



All PI50 functions are controlled with the trackball. The ball controls the movements of the cursor, and the buttons are used to click on buttons and select parameters.

A *Control wheel*

B *Trackball*

C *Right mouse button*

D *Left mouse button*

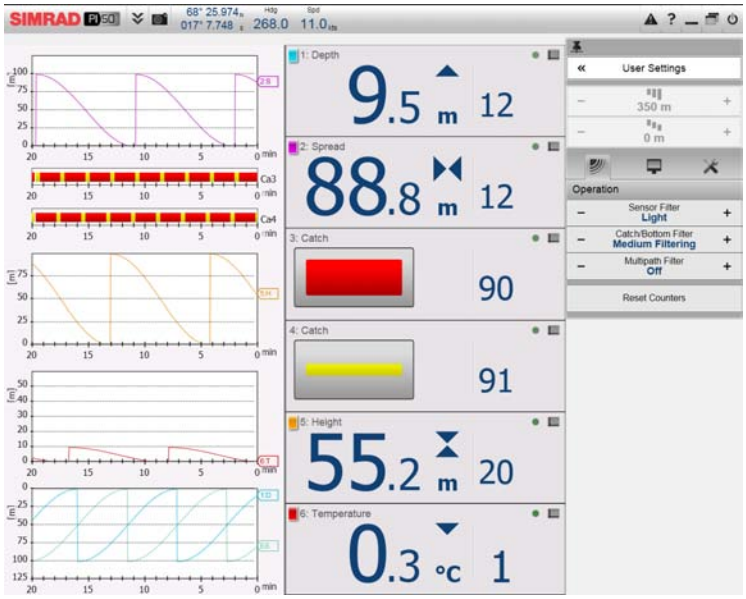
This trackball is connected to the computer, and by means of the buttons and the wheel you can control all the dialogs and parameter settings.

A standard computer mouse can also be used. If you wish to use a mouse, we recommend that you find one equipped with a control wheel.

Sensor presentations

The PI50 can be used with several different sensors, but only six sensors simultaneously.

Figure 7 Sensor presentation example with sensor views and trend views shown



When sensors are selected, the presentation of these are made automatically. The following views are available:

- **Sensor views**: The information from each sensor is presented in a rectangle. "Dual" sensors use two channels, and they use two rectangles for presentation. The rectangle holds the key information provided by sensor, as well as a **History view**. This is a small rectangle within the sensor view. It offers the changes in the sensor data for the last 20 minutes.
- **Trend views**: For each sensor, you can also retrieve a "trend view". This is a graph providing the historic values from the sensor. Both the vertical and horizontal resolutions of the graph can be adjusted.
  - The **Range** and **Range Start** buttons on the **Main** menu controls the vertical resolution.
  - The **Trend History Length** button on the **Display** menu controls the horizontal resolution (5 to 1440 minutes).

The presentation of the various views are made automatically, and the size of each view depends on the space available. When no trend views are open, the sensor views will stretch from the left to the right edge of the presentation. When a trend view is opened, it will position itself on the left side, and the size of the sensor views will be reduced by removing the **History view**. If additional trend views are opened, they will be positioned on top of each other, and the vertical size of each view is adjusted automatically.

The order of the sensor views is defined by the setting made in the **Select Sensors** dialog. The location of the trend views do not follow his order. The first trend view fills the entire vertical space, the next are placed on top of the first in the same order they are opened.

Starting normal operation

Once you have powered up the complete PI50 system, you are ready to start the actual operation. When started up, the PI50 will automatically apply its previous setup parameters.

These procedures are partly provided to get you acquainted with the basic functionality provided by the PI50, and partly to set up the system for normal use. If you already know the PI50, or the current parameters are acceptable, you do not need to carry out the procedures.

Topics

- *How to select menu language* on page 19
- *How to reset the PI50 to factory default parameters* on page 19
- *How to select and set up the sensors* on page 20
- *How to save the current user settings* on page 23
- *How to calibrate the depth sensors* on page 24

How to select menu language

The menu buttons – as well as other text – in the PI50 presentation are available in several languages.

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 Click the **Display** icon under the **Main** menu to open the **Display** menu.

→ *Display menu* on page 111

3 Click the middle of the **Language** button to open the list of available languages.

4 Click once on the language you wish to use.

5 Observe that the sub-menu is closed, and that all text in the menu buttons change to the selected language.

How to reset the PI50 to factory default parameters

If the current settings are unreliable, or you simply wish to reset the PI50 to a known set of parameters, choose the factory setting provided.

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 Click the **User Settings** button to open the **User Settings** dialog.

3 In the **User Settings** dialog, click one of the factory settings in the top text field:
   - **Simrad Factory Default**
   - **Simrad Purse Setup**
   - **Simrad Trawl Setup**

4 Click the **Activate Selected Setting**, then click **Close**.

How to select and set up the sensors

The PI50 allows you to put the entire PI sensor range to use. However, you must select the sensors that you wish to use, set them up in the order you wish to see them on the screen, and select the operational parameters. Both the sensor selection and the parameter setup are done in the **Select Sensors** dialog.

Tip

If you have several sensor configurations dedicated for different gears or different tasks, we strongly recommend that you save these for future use.

→ *How to save the current user settings* on page 67

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

3 Click the **Select Sensors** button to open the **Select Sensors** dialog.

4 Observe the **Available Sensors** field on the upper left side of the dialog. It lists all the sensor types supported by the PI50.

5 Click once a sensor type to select it.

6 Click the [►] button to copy the chosen sensor to the **Selected Sensors** list.

7 Repeat to select all requested sensors.

   The PI50 system will keep track of the quantity of sensors you are adding to the **Selected Sensors** list. If you try to add too many sensors, a message will let you know.

   If you need to remove a sensor from the **Selected Sensors** list, click on it, and then click the [◄] button.

8 In the **Select Sensors** dialog, observe the items in the **Selected Sensors** list.

Note

The order of the sensors in this list is also reflected to the order of the sensor view rectangles

→ *How to control the order of the sensor views* on page 71

9 Click once a sensor type to select it.

10 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

11 Observe the list of sensors in the **Sensor Configuration** field at the bottom of the dialog.

12 For each sensor in the **Sensor Configuration** field:

A Choose **Label ID** (identification).

a **Label ID**

This number is used to identify the sensor.

The ID must be unique for each sensor, and we recommend that you let it match the physical label placed on the sensor. The number you choose will be used in the Sensor view.

→ *Sensor views* on page 37

b The *order* in which the Sensor views are presented is defined by the order in the **Selected Sensors** list.

B Choose **Label Name**.

- **Label Name**

By default, the **Label Name** is the same as the sensor name listed with the **Available sensors**.

Click in the field to enter another name.

If you do not have a computer keyboard connected to your PI50 system, click the **Keyboard** button to open an on-screen keyboard.

The **Label Name** is only shown in this dialog.

C Choose **Update Rate**.

a **Update Rate**

This parameter i used to select the sensor's update rate.

This is how often the PI50 can expect to receive information from the sensor.

Note

*The **Update Rate** parameter is vital. The update rate you choose here must comply to the update rate programmed into the sensor. If these do not match, the communication will not work.*

The default update rates for the various sensors are listed in chapter *PI50 Sensors*.

To change the channel number in the sensor, use the PI Configurator utility.

D Choose **Sensor Value Name**.

a **Sensor Value Name**

By default, the **Sensor Value Name** is the same as the sensor name listed in the **Available Sensors** list. If you have a keyboard connected to the PI50 computer, you can click in the field, and enter another name. You can also open the on-screen keyboard.

The **Sensor Value Name** is used in the Sensor views. If you are setting up a dual sensor, you can enter two different names, for example "Port door" and "Starboard door".

→ *Sensor views* on page 37

Example: If you have three PI Catch sensors on your trawl, you can name them "20 Ton", "40 Ton" and "60 Ton".

E Choose **Channel Number**.

a **Channel Number**

This is the communication channel used between the sensor and the PI50 system.

Note

*The **Channel Number** parameter is vital. The communication channel number you choose here must comply to the channel number programmed into the sensor. If these do not match, the communication will not work. By default, the channel number will match the factory setting.*

If you use more than one sensors of the same type at the same time , the channel number of one of the sensors must be changed to make it unique for the sensor. This must be changed both in the actual sensor, and in the **Select Sensors** dialog during configuration.

The default communication channels for the various sensors are listed in chapter *PI50 Sensors*.

To change the channel number on the sensor, use the PI Configurator utility.

F Observe the **Offset** value.

a **Offset**

Sensors measuring spread and depth can have an offset value.

The offset value for the depth sensors are determined during calibration.

→ *How to calibrate the depth sensors* on page 24

The offset value for the spread sensor must be entered manually based on your knowledge about the physical locations of the sensors and the properties of the gear.

13 Click **Apply** to save the sensor configuration.

14 Check that all sensors are shown in the PI50 presentation.

15 Click **OK** to save the current settings and close the dialog.

How to save the current user settings

This procedure explains how to save the current configuration and parameter settings.

If you have several users with favourite configurations, if you work with different gears, or with different hardware configurations, depth or bottom conditions, we recommend that you save the PI50 operational parameters for future use.

If you have several different sensor configurations dedicated for various gears or different tasks, we also strongly recommend that you save these.

The settings saved using the **User Settings** functionality includes all receiver settings, interface parameters, as well as the currently selected sensors and their communication parameters. This is useful if you operate a combined trawler and seiner using different sensor setup on the different gears.

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 Click the **User Settings** button to open the **User Settings** dialog.

3 In the **User Setting** dialog, click the **Save Current Setting** button.

4 In the **Setting** dialog, click **OK** to accept the suggested name.

5 You can also choose a different name.

If you have a keyboard connected to the PI50 computer, you can click in the text field, remove the suggestion, and enter any name.

If you do not have a computer keyboard connected to your PI50 system, click the **Keyboard** button to open an on-screen keyboard.

Click **OK** to save the settings with the chosen name.

6 Observe that the name you have chosen appears on the **Saved Settings** list.

7 Click **OK** to save the current settings and close the dialog.

How to calibrate the depth sensors

Only depth sensors can be calibrated. The purpose is to make sure that the depth reported by the sensor is as accurate as possible. This procedure is carried out on board the vessel.

Note

In order to calibrate the sensor, it must be submerged in salt water.

The software provided for calibration assumes that the sensor is lowered to 1 meter deep. If you need to lower it even deeper, you will need to add this additional depth to the **Offset** value when you select and set up the sensor in the **Select Sensors** dialog.

Example: If you lower your sensor to 5 meters depth for calibration, you must enter 4 (meters) into the **Offset** for the sensor.

1. Mount a rope to the top fastening lugs on the sensor.
2. Tighten the rope, and measure one meter from the bottom of the sensor to a spot on the rope. Place a visual marker on the rope at that location.
3. Lower the sensor over the side of the vessel and into the water. Lower it until the visual marker on the rope is even with the surface.

   You may wish to use a different depth reference than the sea surface. If this is the case, change the marking on the rope to fit you preference, for example the depth of the keel or the depth of an echo sounder transducer.

   It is also possible to attach the sensor 1 meter under a floating device. Test this arrangement before you use, and make sure that the pressure sensor on the depth sensor is located 1 meter below the sea surface when lowered into the water.
4. Observe the numerical presentation of the sensor depth, and allow the reading to stabilize itself.
5. Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.
6. Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

   → *Setup menu* on page 112
7. Click **Calibration**.

8. In the **Calibration** dialog, click **Start Calibration**.
9. Wait for the PI50 system to do the calibration.

   When the **Calibration** dialog closes, the calibration has finished. Click **Close** to close the dialog.
10. Observe the numerical presentation of the sensor depth, and verify that it reads 1 m.
11. Retrieve the sensor from the water.

Title Bar

The PI50 **Title Bar** is located on the top of the display presentation, and it is stretched from the far left to the far right side.

The **Title Bar** provides buttons to hide or show the menu, to make a screen capture, to open the **Messages** dialog, and to open the context sensitive on-line help. It also provides navigational information, as well as a few buttons related to operating system features.

For more detailed information about the **Title Bar**, see chapter *Display views*.

→ *Title Bar* on page 33

Figure 8 Title Bar

The following information elements are placed on the **Title Bar**:

a **Logo and product name**: This element identifies the manufacturer and the product.

→ *Logo and product name* on page 33

b **Operation buttons**: These buttons are used to control basic operational functions.

→ *Operation buttons* on page 34

c **Navigational information**: These are not buttons, but information fields providing current data related to the vessel movements.

→ *Navigational information* on page 34

d **Function buttons**: These buttons are used to control basic functions such as screen captures, help, menu appearance

→ *Function buttons* on page 35

The menu system

This section provides a short introduction to the menu system, and explains the basic use of the PI50 menu buttons.

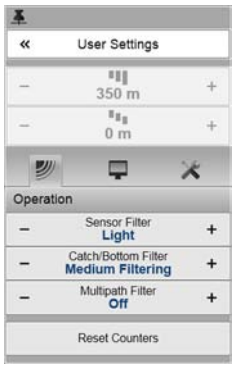
For more information about the menu system, see *The menu system* on page 106.

Topics

- *The menu hierarchy* on page 26
- *Menu buttons* on page 26

The menu hierarchy

Figure 9 The Main menu (top) with the Operation sub-menu below



The menu system on the PI50 is by default placed on the right hand side of the display presentation. You can however easily move the menu to the left side using the **Display Options** dialog, or hide it from view with the **Menu** button on the **Title Bar**.

The main menu is short, and the three sub-menus are opened by clicking on the three icons.

1. The **Main** menu provides the parameters most frequently used during normal operation.
2. The **Operation** menu controls the main operational parameters.
3. The **Display** menu controls the visual aspects of the system, such as parameters related to the display presentation.
4. The **Setup** menu allows you to control the configuration of the signal processing, as well as system installation and maintenance, and the interfaces to peripheral devices.

Menu buttons

Each menu contains several menu buttons. Each button shows the function of the button, some of them also display the current parameter setting. The majority of the buttons in each menu provide one or more of these functions:

- You can increase and decrease parameter values by clicking the [+] and [–] fields on the button.
- You can change parameter values by clicking on the button, holding the mouse depressed, and then moving the cursor sideways.
- You can change parameter values by means of the scroll wheel on the mouse or trackball.
- You can enter parameter values from the keyboard (if you have one).
- You can select parameter value from the button's sub-menu.
- You can open a dedicated dialog.

How to select a numerical parameter using the +/- buttons

1 Move the cursor to either side of the button, and observe that the background colour changes.

   a Click on the left side of the button to decrease the numerical value.

   b Click on the right side of the button to increase the numerical value.

How to select a numerical parameter by moving the cursor horizontally

1 Place the cursor on the middle of the button.

2 Click and hold the left mouse button depressed.

3 Move the cursor horizontally: left to decrease the parameter value, or right to increase it.

4 Release the mouse button when the requested value is shown.

How to select a numerical parameter by means of the scroll wheel

1 Place the cursor on the middle of the button.

2 Spin the scroll wheel in either direction to increase or decrease the parameter value.

3 Release the scroll wheel when the requested value is shown.

How to select a numerical parameter using the keyboard

1 Click the middle section of the button to open a text field.

2 Enter the numerical value into the text field.

   If the numerical value exceeds the permitted range for the parameter, the frame in the text field will be red. You will then not be able to enter the value.

3 Press the **Enter** key.

How to select a parameter using a sub-menu

1 Click the middle section of the button to open a sub-menu, then click the requested parameter value.

The chosen value is applied, and the sub-menu is automatically closed.

2 Whenever applicable, you can also access the sub-menu by clicking the left and right side of the button, but this method will not show you the menu choices.

a Click on the left side of the button to select a lower sub-menu choice.

b Click on the right side of the button to select a higher sub-menu choice.

How to select parameters using a dialog

1 Click anywhere on the button to open a separate dialog.

Display views

The display views provided by the Simrad PI50 are based on the award winning design of the Simrad ME70 multibeam echo sounder. The menu system, presentation of data in the operational modes, and the user interface elements, have been created in close cooperation with designers and users.

This chapter provides a brief overview of the information displayed by the Simrad PI50, and how the information is organised.

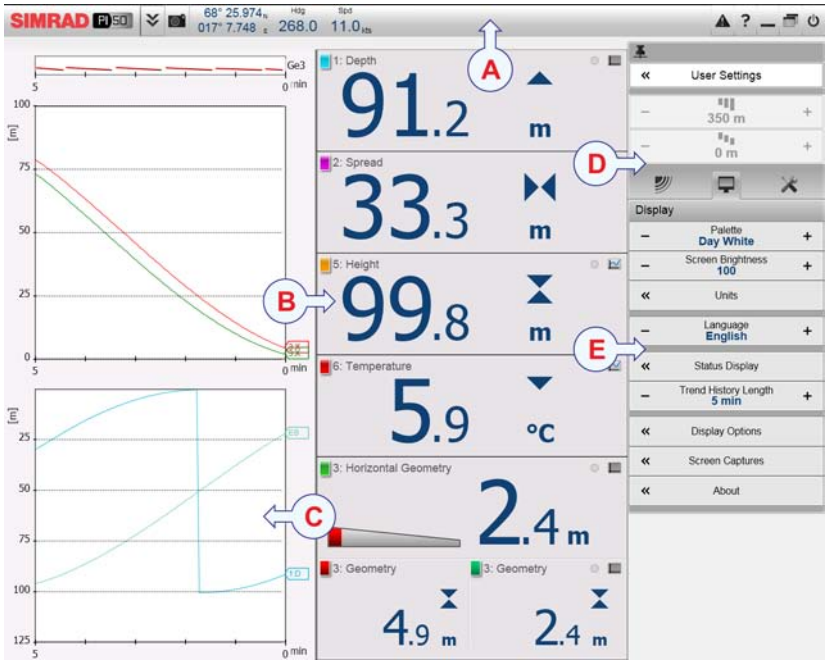
Topics

- *Display organisation* on page 30
- *Title Bar* on page 33
- *Menu system* on page 32
- *Sensor views* on page 37
- *Trend views* on page 59
- *Screen captures* on page 65

Display organisation

A typical PI50 system display presentation is shown.

Figure 10 Sensor presentation example with sensor views and trend views shown



A Title Bar

The **Title Bar** identifies the logo, and provides several icons and buttons. These are used to hide or retrieve the menu system, and to enable basic system functions.

→ *Title Bar* on page 33

B Sensor views

The sensor views are automatically placed on top of each other. They reflect the sensors you have chosen in the **Select Sensors** dialog, and the order you have given the sensors when you defined them.

If you have opened one or more trend views, the sensor view rectangles are automatically reduced in size. If you hide the menu, they will enlarge and fill the vacant space left by the menu system.

C Trend views

Each sensor presentation can be expanded into a trend view to show the historic development of the information provided by the sensor.

Each trend view comprises a graph. These are placed on the left side of the screen, on top of each other, in the order you open them.

D **Main** menu

The **Main** menu is by default located on the right hand side of the presentation. To open any of the sub-menus, click the icons. To hide or retrieve the **Main** menu, click the **Menu** button on the **Title Bar**.

→ *Menu system* on page 32

E **Sub-menus**

Three sub-menus may be opened from the three icons in the bottom of the **Main** menu.

→ *Menu system* on page 32

Menu system

Figure 11 The Main menu (top) with the Display menu below

The PI50 menu is located at the right side of the display. A detailed breakdown of the commands and parameters available from the menu system is given in the *Menu system* chapter.

→ *The menu system* on page 106

You can place the menu on the left side of the PI50 presentation by means of the **Menu on the right side** option in the **Display Options** dialog.

You can also hide the menu from view if you do not need it. Use the **Menu** button on the **Title Bar**. Click once to hide the menu, click one more time to retrieve it.

To access the parameters and functions provided by the sub-menus, click one of the menu icons under the **Main** menu. One click on an icon opens the sub-menu, the next click closes it.

1 The **Main** menu provides the parameters most frequently used during normal operation.

2 The **Operation** menu controls the main operational parameters.

3 The **Display** menu controls the visual aspects of the system, such as parameters related to the display presentation.

4 The **Setup** menu allows you to control the configuration of the signal processing, as well as system installation and maintenance, and the interfaces to peripheral devices.

For more information about the menu system, see the *Menu System* chapter.

→ *The menu system* on page 106

Title Bar

The PI50 **Title Bar** is located on the top of the display presentation, and it is stretched from the far left to the far right side.

The **Title Bar** provides buttons to hide or show the menu, to make a screen capture, to open the **Messages** dialog, and to open the context sensitive on-line help. It also provides navigational information, as well as a few buttons related to operating system features.

Figure 12 Title Bar

A **Logo and product name**: This element identifies the manufacturer and the product.

B **Menu**: Click this button to hide or recall the menu system.

C **Screen capture**: Click this button to make a screen capture.

D **Navigation**: These are not buttons, but information fields providing current data related to the vessel movements.

E **Alarm**: Click this button to open the **Messages** dialog. This button will flash to indicate that a message is posted.

F **Help**: Click this button to open the on-line help.

G **Function**: These buttons are used to control basic operating system functions, and to close the PI50 application.

Topics

- *Logo and product name* on page 33
- *Operation buttons* on page 34
- *Navigational information* on page 34
- *Function buttons* on page 35

Logo and product name

The Simrad logo and the product name (PI50) is shown.

Double-click the Simrad logo to reduce the size of the PI50 presentation. Double-click one more time to restore the original size.

Operation buttons

Menu button

Click once on the **Menu** button to hide the menu, and one more time to bring it back again. When the menu is hidden, it will temporarily be shown on the left or right hand side of the display if you move the cursor to that position.

→ *The menu system* on page 106

Screen capture button

Click this button once to create a screen capture of the current echogram presentation. To view the recorded image, click **Screen Capture** on the **Taskbar** to open the image browser.

→ *Screen captures* on page 65

Navigational information

These are not buttons, but fields providing useful information related to the vessel movements. You can choose which information to be displayed if you open the **Display Options** dialog from the **Display** sub-menu.

Note

*This navigational information on the **Title Bar** must not be used for navigation!*

Geographical location

Provided that a GPS system is connected to the PI50, this field on the **Title Bar** will display the vessel's geographical position in longitude and latitude.

The communication with the external GPS system is set up using the **Navigation** button on the **Setup** menu.

Vessel heading

Provided that a GPS or compass system is connected to the PI50, this field on the **Title Bar** will display the vessel's current heading.

The communication with the external GPS system, heading sensor or gyro compass is set up using the **Navigation** button on the **Setup** menu.

Vessel speed

Provided that a GPS or speed log system is connected to the PI50, this field on the **Title Bar** will display the vessel's current speed.

The communication with the external GPS system or speed sensor is set up using the **Navigation** button on the **Setup** menu.

Water temperature

Provided that a temperature sensor is connected to the PI50, this field on the **Title Bar** will display the water temperature.

Note

This functionality is not implemented in the current SW version.

Depth

Provided that an external echo sounder is connected to the PI50 to provide the information, the current bottom depth can be shown.

Function buttons

The five function buttons are located on the far right side of the **Title Bar**.

Message button

This **Message** button will indicate when the PI50 system has issued a message. Click the button to open the **Message** dialog. If you hold the mouse cursor over the button, a tooltip rectangle will provide a list of the messages that you have not acknowledged.

Help button

Click this button to open the PI50 context sensitive on-line help. The button opens the help system on its start page.

Context sensitive on-line help is also available from the various dialogs in the PI50. Click any **Help** button [**?**] in the top right corner of any dialog to open the help system.

Minimize button

Click this button to minimize the PI50 display presentation. This is an operating system function.

To restore the presentation to its previous size, click the PI50 button on the operating system's taskbar.

Resize button

Click this button to change the size of the PI50 display presentation. This is an operating system function.

To restore the presentation to its previous size, click one more time on the **Resize** button.

Exit button

Click this button to close the PI50 program.

Observe the dedicated procedure to power down the PI50 system.

→ *Power off* on page 17

Sensor views

Each sensor providing information to the PI50 system uses a dedicated rectangle – a **Sensor view** – to display this information.

These rectangles are dynamic. This means that you can change their size. The text font and the amount of information in the rectangle will change as the rectangle is made larger or smaller. All the size adjustments are made autom,atically depending on how many sensors you have in use, and how much information you wish to see.

Topics

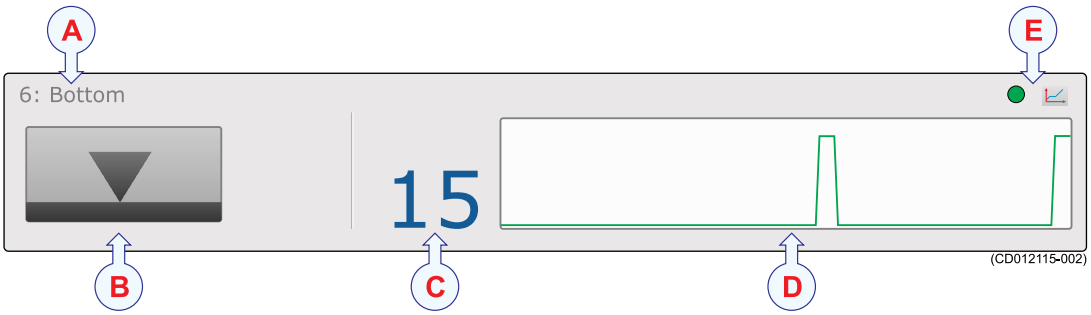
- *PI Bottom Contact sensor view* on page 37
- *PI Catch sensor view* on page 38
- *PI Depth sensor view* on page 39
- *PI Depth vertical geometry sensor view* on page 41
- *PI Height sensor view* on page 41
- *PI Spread sensor view* on page 43
- *PI Twin Spread sensor view* on page 44
- *PI Spread/Depth sensor view* on page 45
- *PI Temperature sensor view* on page 47
- *PI Temperature/Depth sensor view* on page 48
- *PI Geometry sensor view* on page 50
- *PI Geometry Differential sensor view* on page 52
- *PI Height/Depth sensor view* on page 54
- *PI SeineSounder sensor view* on page 55
- *PI Remote/Depth sensor view* on page 57
- *PI Rip sensor view* on page 57

PI Bottom Contact sensor view

The purpose of the Simrad PI Bottom Contact sensor is to detect if a bottom trawl is accidentally lifted up from the seabed. This will allow fish to escape under the gear.

- On a pelagic trawl, the sensor will notify you if you move the gear too close to the bottom.
- Used on a purse seine you will be notified once the seine reaches the bottom, and this allows you to fish even on a rough bottom.
- On a Danish seine the Simrad PI Bottom Contact sensor will let you know when the net has a stable bottom contact, and when it is time to haul.

Figure 13 Bottom Contact sensor view



A **Sensor identifier**: The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

B **Bottom contact status icon**: The arrow displays "bottom contact".

This is graphically represented by making contact with the horizontal black line (seabed). When bottom contact is lost, the arrow will rise from the seabed and change appearance.

- Left icon: The sensor has lifted off the seabed.
- Right icon: The sensor is in physical contact with the seabed.

C **Timer**: This timer records how many minutes that have elapsed since the sensor was activated (lost bottom contact or touched the bottom depending on gear type). If the bottom contact is regained, the timer stops. It is then restarted once the status changes again. The timer can be manually reset by clicking the **Reset Counters** button on the **Operation** menu.

D **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

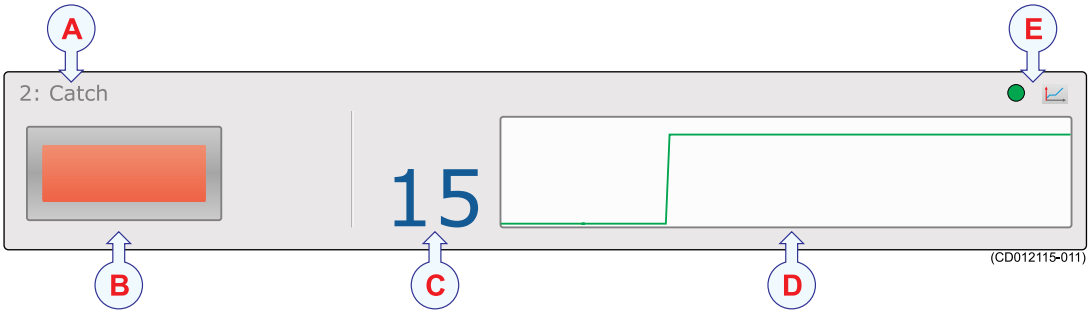
E **Pulse lamp and Trend view icons**: The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** icon to open (and close) the **Trend view** for the sensor.

PI Catch sensor view

Using the Simrad PI Catch sensor, you can easily monitor the filling rate and the amount of catch in the trawl. The sensor simply monitors the expansion of the meshes in the cod-end. Once the volume caught is enough to expand the meshes, they will pull the detector wires and engage the sensor. The sensitivity of the sensor can easily be adjusted by extending the detection rubber bands to span additional meshes.

To monitor the filling rate, we recommend that you use minimum two sensors. Place the first sensor at the far end of the cod-end, it will tell you that the trawl is actually fishing. Place the second sensor closer to the trawl opening. Once the trawl is filled to the chosen location, the sensor is engaged, and you know that it is time to haul.

Figure 14 Catch sensor view



A **Sensor identifier**: The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

B **Catch status icon**: An icon visualizes sensor activation.

If the icon contains a small yellow rectangle, this means that the sensor is not activated. A red rectangle in the icon means that the trawl has been filled with fish, and this has triggered the sensor.

- Left icon: The sensor is activated.
- Right icon: The sensor is not activated.

A grey rectangle inside the icon means that you have lost contact with the sensor.

C **Timer**: This timer records how many minutes that have elapsed since the sensor was activated. The timer can be manually reset by clicking the **Reset Counters** button on the **Operation** menu.

D **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

E **Pulse lamp and Trend view icons**: The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** icon to open (and close) the **Trend view** for the sensor.

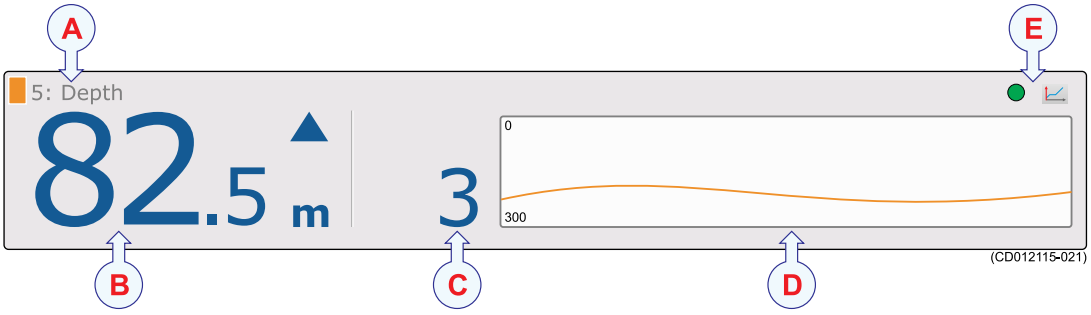
PI Depth sensor view

The Simrad PI Depth sensor provides information about the current depth and the depth changes of your gear.

- On a bottom trawl, you will use the sensor to achieve full control when shooting, and to position the trawl on the slope.
- During pelagic trawling, you know how important it is to position the trawl relative to the largest concentration of fish. By using a PI Depth sensor, you can monitor the exact depth relative to the surface, and adjust the trawl depth accordingly. Additional depth sensors on the doors will monitor if the doors stay at the same depth.
- During seining, use the PI Depth sensor to monitor the depth of the net, and the descending speed of the net. Then you will know when to start pursing, and which speed to use.
- Mounted on a Danish Seine the PI Depth sensor monitors the sinking speed of the net, and it will tell you when to start hauling once the net has stopped sinking.

Three sensor versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility.

Figure 15 PI Depth sensor view



A **Sensor identifier**: The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the **Trend view** and in the **History field**.

B **Current depth**: This the current depth measured by the sensor. The current measurement unit is shown, as well as a blue arrowhead. The arrowhead indicates the current vertical movement of the sensor; up or down. In this example the sensor measures 82,5 meters from the sea surface and down to the sensor, and the sensor – and thus the gear – is slowly rising with 3 meters each minute.

C **Depth changes**: This digit shows depth changes recorded by the sensor, and thus the ascending or descending speed of the net. The value is shown in units per minute. The direction is shown with the blue arrowhead. If the sensor does not detect any depth changes, the arrowhead is removed.

D **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

E **Pulse lamp and Trend view icons**: The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** icon to open (and close) the **Trend view** for the sensor.

PI Depth vertical geometry sensor view

The vertical geometry view is created if you have one Depth sensor on each trawl door. The PI50 will then calculate the difference. Any type of Depth sensor will do.

Note that this is not a dedicated sensor, but a presentation generated by the PI50 based on information from other sensors.

Two sensor view rectangles are used, one to present the information from the two depth sensors, and one to provide the geometry information.

To set up the two depth sensors, use the **Advanced Sensor Configuration** functionality in the **Select Sensors** dialog.

Figure 16 PI Depth dual sensor view

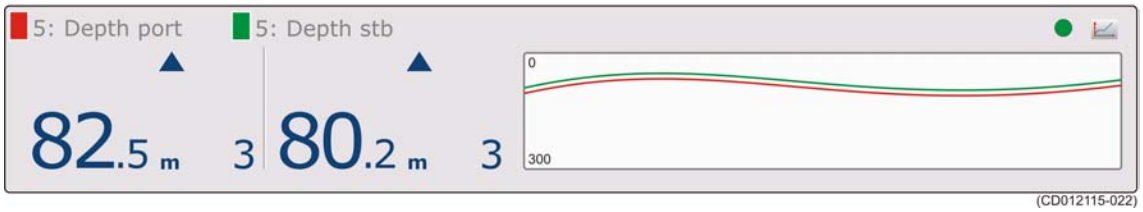
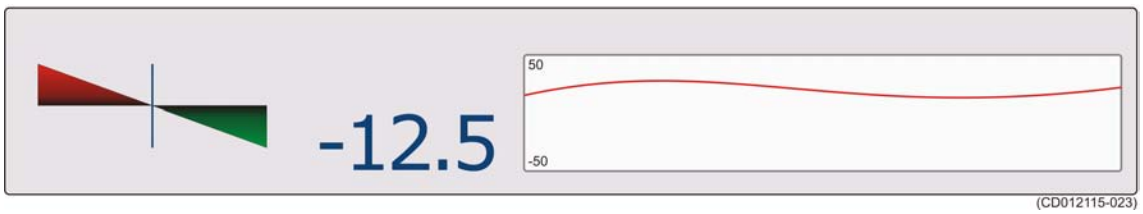


Figure 17 Vertical geometry sensor view



Related topics

- *How to set up spread and depth sensors to measure vertical geometry* on page 95

PI Height sensor view

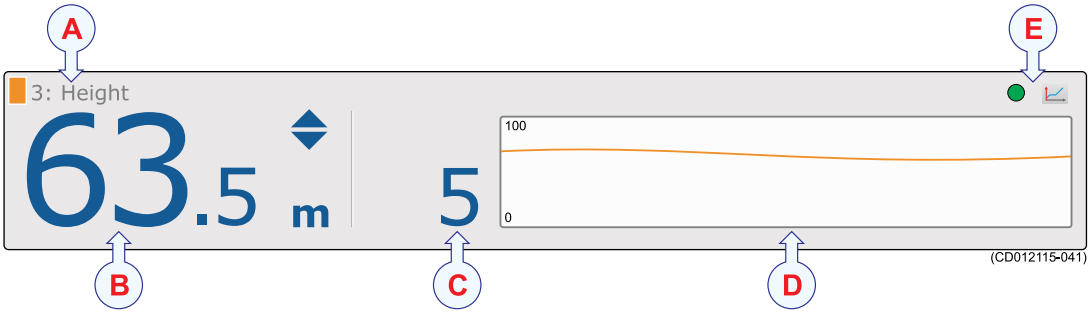
The Simrad PI Height sensor measures the height over the bottom, that is the distance from the bottom and up to wherever the sensor is located. This provides you with a valuable range of applications for bottom and pelagic trawling.

- On a bottom trawl, place the sensor behind the headrope. From this position it will tell you the height of the trawl opening. This allows you to adjust you equipment immediately if the opening is reduced, and you will avoid losing catch.

- On a pelagic trawl, place the sensor behind the footrope. You will then know at once if the trawl approaches the bottom. If you use a second sensor behind the headrope, the difference between the two measurements will give you the height of the trawl opening.

The sensor contains a small echo sounder to measure the height above the bottom.

Figure 18 PI Height sensor view



A **Sensor identifier**: The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the **Trend view** and in the **History field**.

B **Current height**: This is the height from the strongest echo (seabed or footrope) under the sensor, and up to the position on the gear in which the sensor is mounted. The current measurement unit is shown, as well as two blue arrowheads.

The two arrowheads indicate the current vertical movement of the sensor; up or down. In this example the sensor is slowly increasing with 5 meters each minute. If the two arrowheads are pointing towards each other, the height is decreasing. If they are pointing away from each other, the height is increasing.

C **Height changes**: This digit shows height changes recorded by the sensor. The value is shown in units per minute. The direction is shown with the two blue arrowheads. If the sensor does not detect any height changes, the triangles are removed.

D **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

E **Pulse lamp and Trend view icons**: The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** icon to open (and close) the **Trend view** for the sensor.

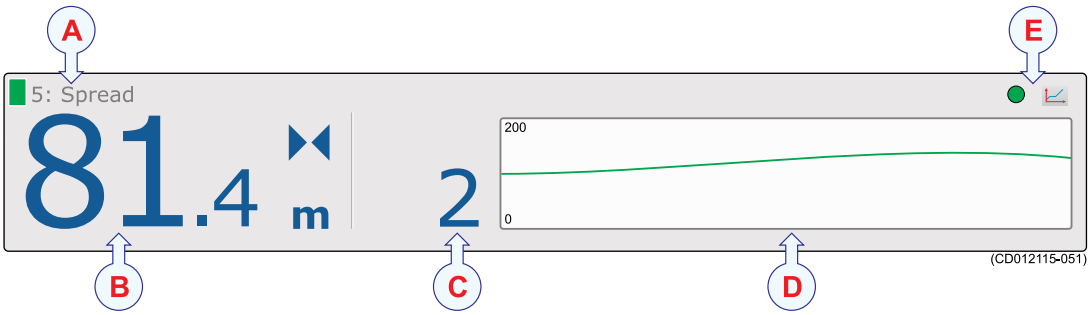
PI Spread sensor view

The purpose of the Simrad PI Spread sensor system is to measure the distance between the two trawl doors. The PI Spread sensor will always require a PI Remote sensor on the other door to carry out this measurement. The PI Spread sensor system has been developed to be used on both bottom and pelagic trawls.

- Use a PI Spread sensor on the port door and a PI Remote sensor on the starboard door.
- The two sensors communicate using a special transverse acoustic link.
- Using this link the PI Spread sensor measures the exact distance between the two sensors.

Two Spread versions are available. These are set up for standard or extended (XT) spread range. This configuration can be changed in the PI Configurator utility.

Figure 19 PI Spread sensor view



A **Sensor identifier**: The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the **Trend view** and in the **History field**.

B **Current spread**: This the current distance between the trawl doors as measured by the sensor. The current measurement unit is shown, as well as two blue arrowheads.

The arrowheads indicate the current changes in the spread distance; increasing or decreasing. In this example the spread distance is slowly decreasing with 2 meters per minute. If the two arrowheads are pointing towards each other, the spread distance is decreasing. If they are pointing away from each other, the spread distance is increasing.

C **Spread changes**: This digit shows the spread distance changes recorded by the sensor, and thus the increasing or decreasing distance between the two trawl doors. The value is shown in units per minute. The direction is shown with the blue triangles. If the sensor does not detect any spread changes, the arrows are removed.

D **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

E **Pulse lamp and Trend view icons**: The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** icon to open (and close) the **Trend view** for the sensor.

Related topics

- *PI Spread sensor view* on page 43
- *PI Spread trend view* on page 61
- *How to set up the PI Spread sensor* on page 80
- *How to set up spread and depth sensors to measure vertical geometry* on page 95

PI Twin Spread sensor view

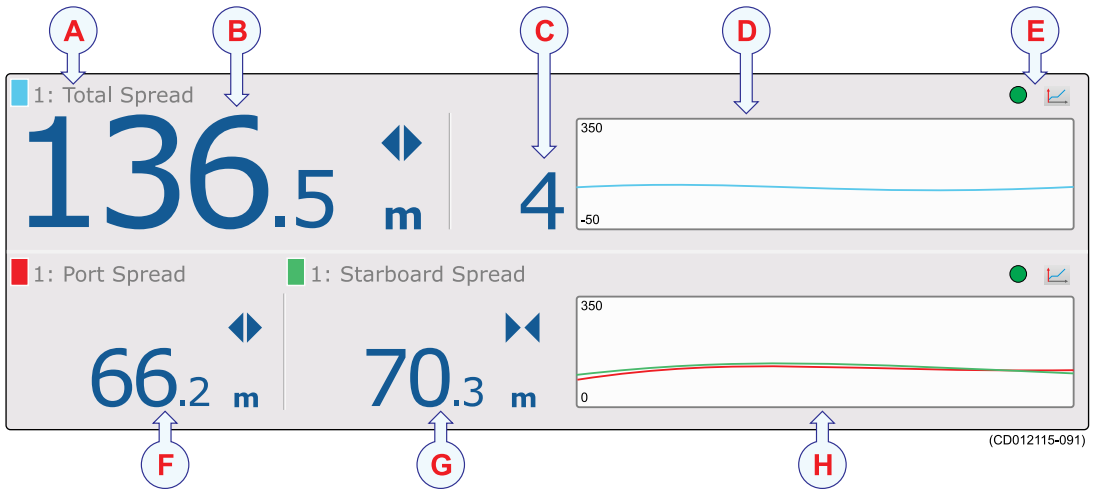
The purpose of the Simrad PI Twin Spread sensor system is to measure the distances between the two trawl openings on a dual bottom or pelagic trawl. A PI Twin Spread sensor is mounted on the port door, while two PI Remote sensors are placed on the centre clump and on the starboard door.

The three sensors communicate using special transverse acoustic links. Using these links the PI Twin Spread sensor measures the exact distance between the three sensors.

Note

This is a "dual" sensor. It will seize two communication channels on the PI50.

Figure 20 PI Twin Spread sensor view



A **Sensor identifier**: The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the **Trend view** and in the **History field**.

B **Total spread**: This the current distance between the two outer trawl doors as measured by the sensor. The current measurement unit is shown, as well as two blue arrowheads. The total spread is the sum of the port and starboard spread distances shown below.

The arrowheads indicate the current changes in the spread distance; increasing or decreasing. In this example the spread distance is slowly decreasing with 2 meters each minute. If the two arrowheads are pointing towards each other, the total spread distance is decreasing. If they are pointing away from each other, the total spread distance is increasing.

C **Spread changes**: This digit shows the total spread distance changes recorded by the sensor, and thus the increasing or decreasing distance between the two outer trawl doors. The value is shown in units per minute. The direction is shown with the blue arrowheads. If the sensor does not detect any spread changes, the arrowheads are removed.

D **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

E **Pulse lamp and Trend view icons**: The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** icon to open (and close) the **Trend view** for the sensor.

F **Port spread**: This the current distance between the port trawl door and the centre clump as measured by the sensor. The current measurement unit is shown, as well as two blue triangles to indicate if the spread distance is increasing or decreasing.

G **Starboard spread**: This the current distance between the centre clump and the starboard trawl door as measured by the sensor. The current measurement unit is shown, as well as two blue triangles to indicate if the spread distance is increasing or decreasing.

H **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

PI Spread/Depth sensor view

The purpose of the Simrad PI Spread/Depth dual sensor is to achieve accurate measurements of both the water depth and the distance between the two trawl doors.

The PI Spread/Depth sensor thus contains both a pressure sensor to measure the water depth, and a spread sensor to measure the distance to the Remote sensor on the other trawl door. The PI Spread/Depth sensor has been developed to be used on both bottom and pelagic trawls.

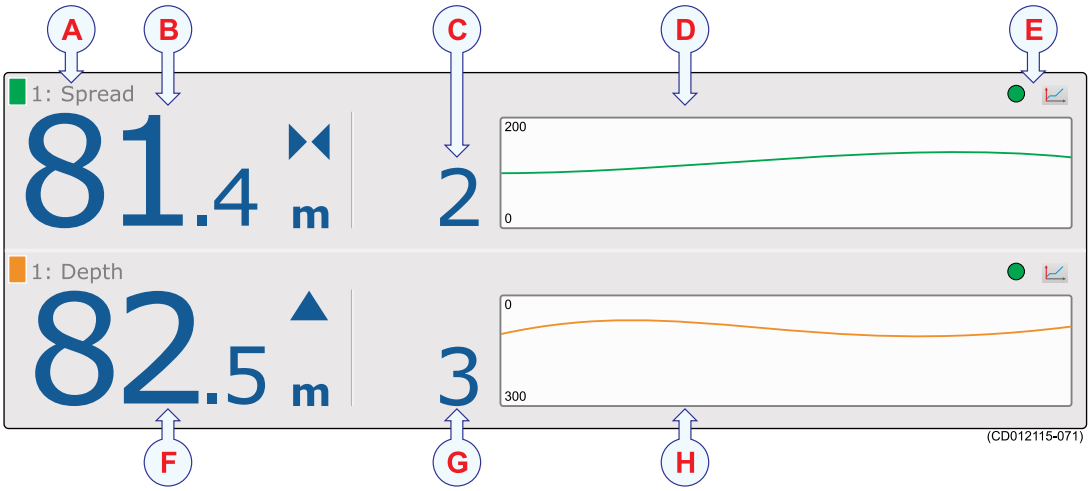
The sensor is normally installed on the port trawl door using an adapter.

Three sensor versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility.

Note

This is a "dual" sensor. It will seize two communication channels on the PI50.

Figure 21 PI Spread/Depth sensor view



A **Sensor identifier**: The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the **Trend view** and in the **History field**.

B **Current spread**: This the current distance between the trawl doors as measured by the sensor. The current measurement unit is shown, as well as two blue arrowheads.

The arrowheads indicate the current changes in the spread distance; increasing or decreasing. In this example the spread distance is slowly decreasing with 2 meters per minute. If the two arrowheads are pointing towards each other, the spread distance is decreasing. If they are pointing away from each other, the spread distance is increasing.

C **Spread changes**: This digit shows the spread distance changes recorded by the sensor, and thus the increasing or decreasing distance between the two trawl doors. The value is shown in units per minute. The direction is shown with the blue triangles. If the sensor does not detect any spread changes, the arrows are removed.

D **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

E **Pulse lamp and Trend view icons**: The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** icon to open (and close) the **Trend view** for the sensor.

F **Current depth**: This the current depth measured by the sensor. The current measurement unit is shown, as well as a blue arrowhead. The arrowhead indicates the current vertical movement of the sensor; up or down. In this example the sensor measures 82,5 meters from the sea surface and down to the sensor, and the sensor – and thus the gear – is slowly rising with 3 meters each minute.

G **Depth changes**: This digit shows depth changes recorded by the sensor, and thus the ascending or descending speed of the net. The value is shown in units per minute. The direction is shown with the blue arrowhead. If the sensor does not detect any depth changes, the arrowhead is removed.

H **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

Related topics

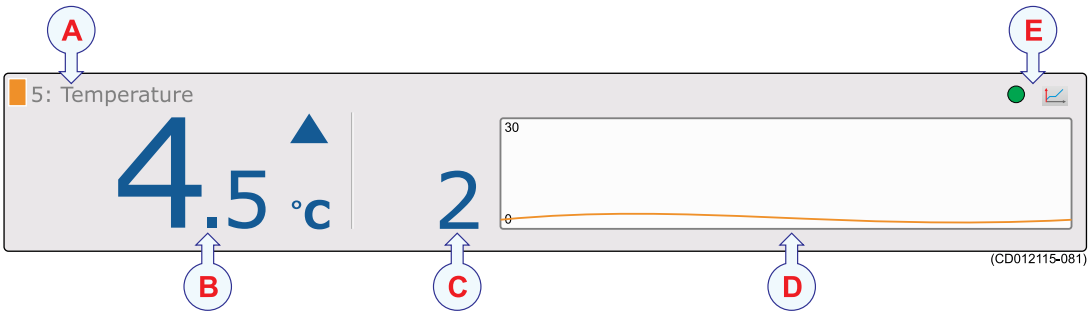
- *PI Spread/Depth sensor view* on page 45
- *PI Spread/Depth trend view* on page 62
- *How to set up the PI Spread/Depth sensor* on page 87

PI Temperature sensor view

The Simrad PI Temperature sensor tells you the exact sea water temperature while you are fishing.

The water temperature is an important parameter. Fish and bait are temperature sensitive, and they are normally found within specific temperature zones for feeding and spawning. However, the temperature layers in the water are constantly changing, and for this reason the temperature must be monitored constantly.

Figure 22 PI Spread sensor view



A **Sensor identifier**: The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the **Trend view** and in the **History field**.

B **Current temperature**: This the current temperature measured by the sensor. The current measurement unit is shown, as well as a blue triangle. The triangle indicates if the temperature is increasing or decreasing. In this example the temperature is measured to 4,5°C, and it is rapidly increasing with 2°C each minute.

C **Temperature changes**: This digit shows temperature changes recorded by the sensor. The value is shown in units per minute. The direction of the temperature change is shown with the blue triangle. If the sensor does not detect any temperature changes, the arrow is removed.

D **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

E **Pulse lamp and Trend view icons**: The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** icon to open (and close) the **Trend view** for the sensor.

PI Temperature/Depth sensor view

The purpose of the Simrad PI Temperature/Depth dual sensor is to achieve accurate measurements of both the water depth and the temperature.

The PI Temperature/Depth sensor thus contains both a pressure sensor to measure the water depth, and a temperature sensor to measure the temperature. The sensor has been developed to be used on both bottom and pelagic trawls, as well as seines.

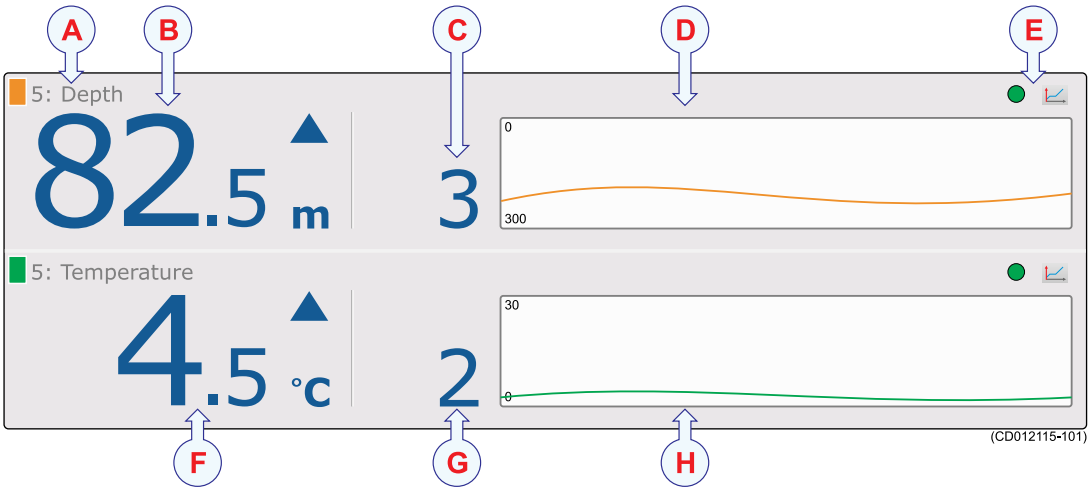
On a trawl, she sensor is normally installed on the headrope or footrope.

Three sensor versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility.

Note

This is a "dual" sensor. It will seize two communication channels on the PI50.

Figure 23 PI Temperature/Depth sensor view



A **Sensor identifier**: The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the **Trend view** and in the **History field**.

B **Current depth**: This the current depth measured by the sensor. The current measurement unit is shown, as well as a blue arrowhead. The arrowhead indicates the current vertical movement of the sensor; up or down. In this example the sensor measures 82,5 meters from the sea surface and down to the sensor, and the sensor – and thus the gear – is slowly rising with 3 meters each minute.

C **Depth changes**: This digit shows depth changes recorded by the sensor, and thus the ascending or descending speed of the net. The value is shown in units per minute. The direction is shown with the blue arrowhead. If the sensor does not detect any depth changes, the arrowhead is removed.

D **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

E **Pulse lamp and Trend view icons**: The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** icon to open (and close) the **Trend view** for the sensor.

F **Current temperature**: This the current temperature measured by the sensor. The current measurement unit is shown, as well as a blue triangle. The triangle indicates if the temperature is increasing or decreasing. In this example the temperature is measured to 4,5°C, and it is rapidly increasing with 2°C each minute.

G **Temperature changes**: This digit shows temperature changes recorded by the sensor. The value is shown in units per minute. The direction of the temperature change is shown with the blue triangle. If the sensor does not detect any temperature changes, the arrow is removed.

H **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

PI Geometry sensor view

The purpose of the Simrad PI Geometry sensor system is to monitor the geometry of your trawl or danish seine.

This is achieved by making accurate measurements of the distances between the centre of the headrope above the trawl opening (or the footrope at the bottom) and each of the trawl doors or wing ends. If these distances are not identical the trawl (or danish seine) will be skewed and unbalanced, and this reduces the catch efficiency.

The following PI Geometry versions exist:

- **Geometry Fine** – High resolution icon to detect smaller changes
- **Geometry Coarse** – Low resolution icon to detect larger changes
- **Geometry XT (Extended) Fine** – Extended range, high resolution icon to detect smaller changes
- **Geometry XT (Extended) Coarse** – Extended range, low resolution icon to detect larger changes
- **Geometry DF (Differential) Fine** – differential measurement (single channel), high resolution icon to detect smaller changes
- **Geometry DF (Differential) Coarse** – differential measurement (single channel), low resolution icon to detect larger changes

The **DF (Differential)** Geometry sensor setting will only use one channel on the PI system, but will not provided extended range.

The **Coarse** or **Fine** settings are not defined by the sensor configuration, but in the PI menu system.

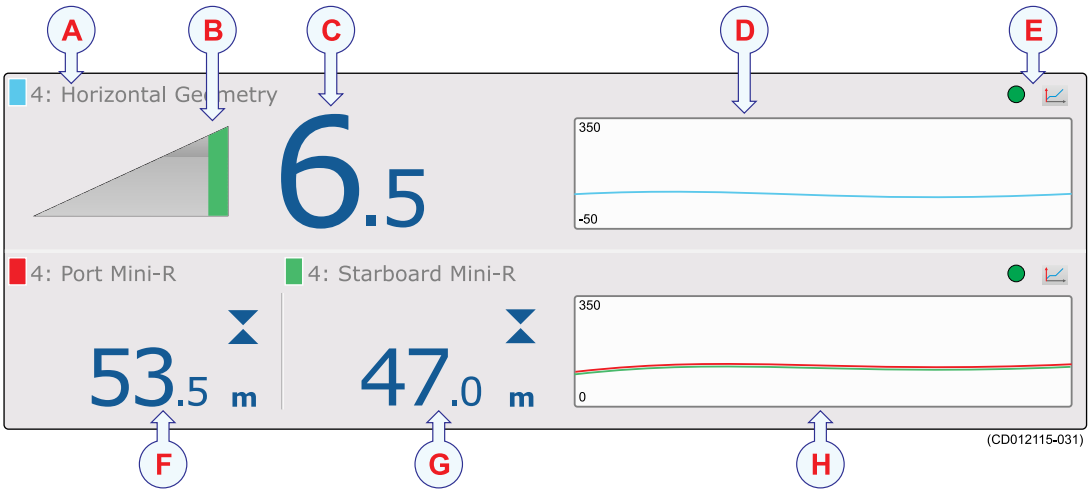
On the PI44/54 systems the phrases **Sensitive** and **Coarse** are used.

The Simrad PI Geometry sensor system has been developed to be used on both bottom and pelagic trawls, as well as pair trawls and danish seiners. In addition to the PI Geometry sensor, the system uses two PI Mini-R transponders. These are mounted on the trawl doors (or trawl wings).

Note

The PI Geometry Differential (DF) sensor versions are both "single" sensors. The other PI Geometry versions are all "dual" sensors. They will seize two communication channels on the PI50.

Figure 24 PI Geometry sensor view (dual channel)



A **Sensor identifier**: The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the **Trend view** and in the **History field**.

B **Geometry icon**: This icon provides the current status of your trawl geometry.

The sensor system makes accurate measurements of the distances between the centre of the headrope and each of the trawl doors or wing ends. If these distances are not identical the trawl (or danish seine) is skewed and unbalanced.

- Left icon: The wire on the port trawl door is shorter than the wire on the starboard door. The length difference is shown on the right side of the icon. You must pay out on the port side to correct the skewed gear.
- Right icon: The wire on the starboard trawl door is shorter than the wire on the port door. The length difference is shown on the right side of the icon. You must pay out on the starboard side to correct the skewed gear.

The height of each icon gives a visual indication of the status. A large difference in length will make the icon high. If the two lengths are identical, the icon is shaped like a flat rectangle.

C **Length difference**: This is the difference in length between the port and starboard wires, as measured from the headrope to each Mini-R transponder.

D **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

E **Pulse lamp and Trend view icons**: The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** icon to open (and close) the **Trend view** for the sensor.

F **Port length**: This is the length of the wire between the headrope and the port Mini-R transponder. The current measurement unit is shown, as well as two blue arrowheads. These arrowheads indicate the current horizontal length changes. If the two arrowheads are pointing towards each other, the distance is decreasing.

G **Starboard length**: This is the length of the wire between the headrope and the starboard Mini-R transponder. The current measurement unit is shown, as well as two blue arrowheads. These arrowheads indicate the current horizontal length changes. If the two arrowheads are pointing towards each other, the distance is decreasing.

H **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

PI Geometry Differential sensor view

The purpose of the Simrad PI Geometry sensor system is to monitor the geometry of your trawl or danish seine.

This is achieved by making accurate measurements of the distances between the centre of the headrope above the trawl opening (or the footrope at the bottom) and each of the trawl doors or wing ends. If these distances are not identical the trawl (or danish seine) will be skewed and unbalanced, and this reduces the catch efficiency.

The following PI Geometry versions exist:

- **Geometry Fine** – High resolution icon to detect smaller changes
- **Geometry Coarse** – Low resolution icon to detect larger changes
- **Geometry XT (Extended) Fine** – Extended range, high resolution icon to detect smaller changes
- **Geometry XT (Extended) Coarse** – Extended range, low resolution icon to detect larger changes
- **Geometry DF (Differential) Fine** – differential measurement (single channel), high resolution icon to detect smaller changes
- **Geometry DF (Differential) Coarse** – differential measurement (single channel), low resolution icon to detect larger changes

The **DF (Differential)** Geometry sensor setting will only use one channel on the PI system, but will not provided extended range.

The **Coarse** or **Fine** settings are not defined by the sensor configuration, but in the PI menu system.

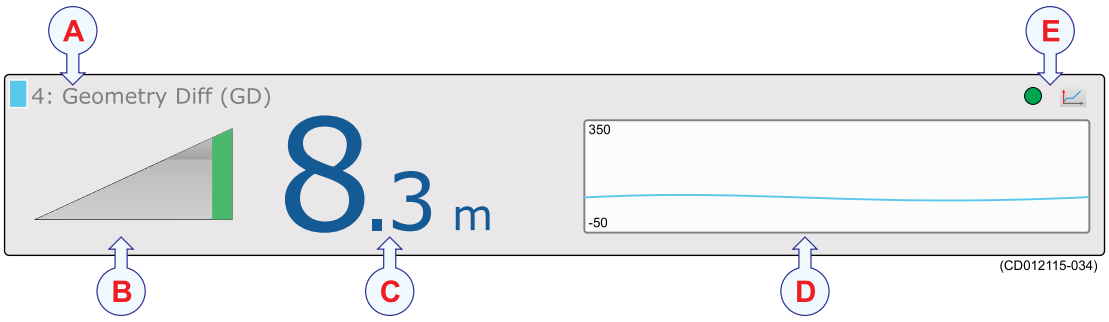
On the PI44/54 systems the phrases **Sensitive** and **Coarse** are used.

The Simrad PI Geometry sensor system has been developed to be used on both bottom and pelagic trawls, as well as pair trawls and danish seiners. In addition to the PI Geometry sensor, the system uses two PI Mini-R transponders. These are mounted on the trawl doors (or trawl wings).

Note

The PI Geometry Differential (DF) sensor versions are both "single" sensors. The other PI Geometry versions are all "dual" sensors. They will seize two communication channels on the PI50.

Figure 25 PI Geometry Differential sensor view (single channel)



A **Sensor identifier**: The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the **Trend view** and in the **History field**.

B **Geometry icon**: This icon provides the current status of your trawl geometry.

The sensor system makes accurate measurements of the distances between the centre of the headrope and each of the trawl doors or wing ends. If these distances are not identical the trawl (or danish seine) is skewed and unbalanced.

- Left icon: The wire on the port trawl door is shorter than the wire on the starboard door. The length difference is shown on the right side of the icon. You must pay out on the port side to correct the skewed gear.
- Right icon: The wire on the starboard trawl door is shorter than the wire on the port door. The length difference is shown on the right side of the icon. You must pay out on the starboard side to correct the skewed gear.

The height of each icon gives a visual indication of the status. A large difference in length will make the icon high. If the two lengths are identical, the icon is shaped like a flat rectangle.

C **Length difference**: This is the difference in length between the port and starboard wires, as measured from the headrope to each Mini-R transponder.

D **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

E **Pulse lamp and Trend view icons**: The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** icon to open (and close) the **Trend view** for the sensor.

PI Height/Depth sensor view

The purpose of the Simrad PI Height/Depth dual sensor is to achieve accurate measurements of both the water depth and the distance from the sensor and down to the bottom.

The PI Height/Depth sensor thus contains both a pressure sensor to measure the water depth, and a small echo sounder to measure the height above the bottom. The PI Height/Depth sensor has been developed to be used on both bottom and pelagic trawls.

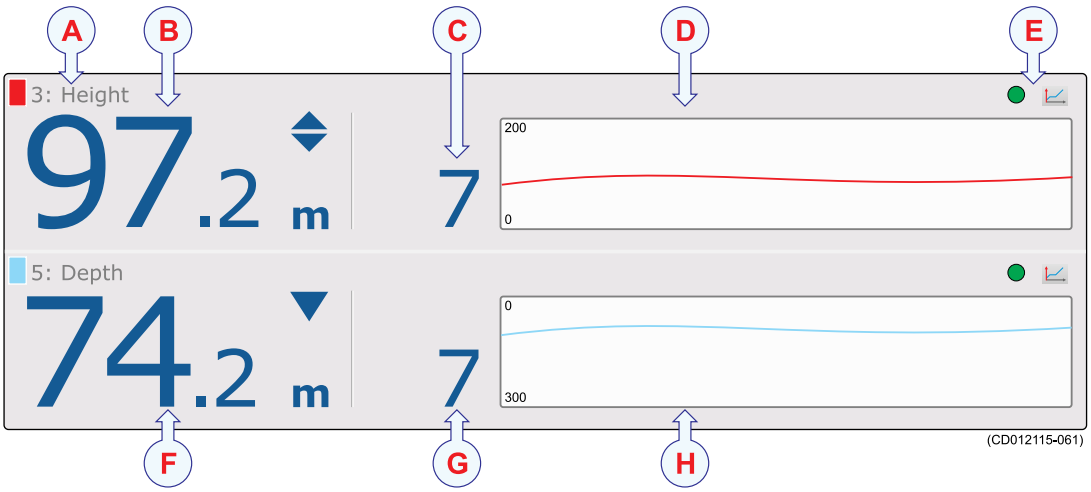
The sensor is normally installed on the headrope or footrope.

Three sensor versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility.

Note

This is a "dual" sensor. It will seize two communication channels on the PI50.

Figure 26 PI Height/Depth sensor view



A **Sensor identifier**: The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the **Trend view** and in the **History field**.

B **Current height**: This is the height from the strongest echo (seabed or footrope) under the sensor, and up to the position on the gear in which the sensor is mounted. The current measurement unit is shown, as well as two blue arrowheads.

The two arrowheads indicate the current vertical movement of the sensor; up or down. In this example the sensor is slowly increasing with 5 meters each minute. If the two arrowheads are pointing towards each other, the height is decreasing. If they are pointing away from each other, the height is increasing.

C **Height changes**: This digit shows height changes recorded by the sensor. The value is shown in units per minute. The direction is shown with the two blue arrowheads. If the sensor does not detect any height changes, the triangles are removed.

D **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

E **Pulse lamp and Trend view icons**: The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** icon to open (and close) the **Trend view** for the sensor.

F **Current depth**: This the current depth measured by the sensor. The current measurement unit is shown, as well as a blue arrowhead. The arrowhead indicates the current vertical movement of the sensor; up or down. In this example the sensor measures 82,5 meters from the sea surface and down to the sensor, and the sensor – and thus the gear – is slowly rising with 3 meters each minute.

G **Depth changes**: This digit shows depth changes recorded by the sensor, and thus the ascending or descending speed of the net. The value is shown in units per minute. The direction is shown with the blue arrowhead. If the sensor does not detect any depth changes, the arrowhead is removed.

H **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

Related topics

- *PI Height/Depth sensor view* on page 54
- *PI Height/Depth trend view* on page 63
- *How to set up the PI Height/Depth sensor* on page 86

PI SeineSounder sensor view

The purpose of the Simrad PI SeineSounder dual sensor is to achieve accurate measurements of both the water depth and the height above the seabed with a single sensor.

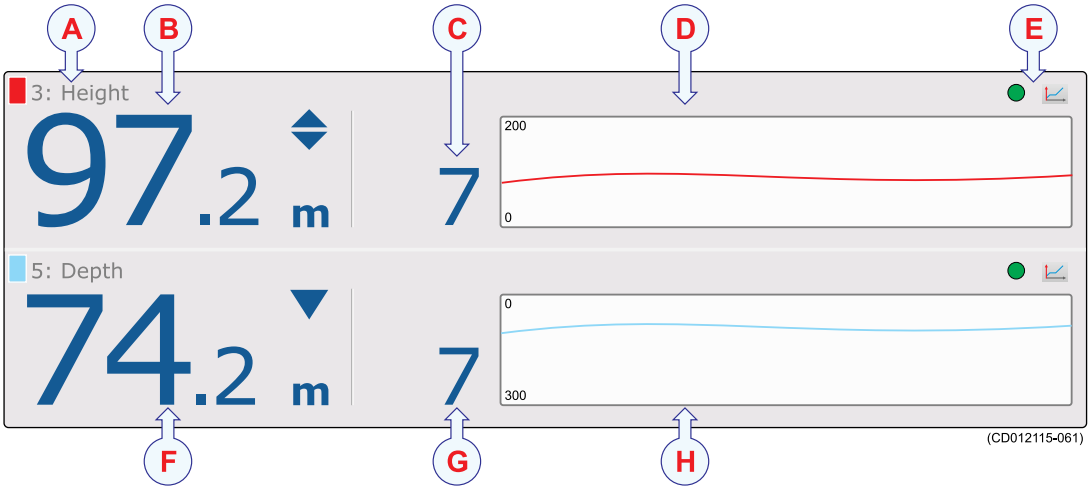
The PI SeineSounder thus contains both a pressure sensor to measure the water depth, and an echo sounder with two transducers to measure the height above the seabed.

The Simrad PI SeineSounder has been developed to be used on both bottom and pelagic trawls and on purse and Danish seiners. The sensor must be installed in two different ways depending on the application. On a trawl, it is mounted horizontally behind the headrope. On a purse seine, it is mounted vertically below the footrope.

Note

This is a "dual" sensor. It will seize two communication channels on the PI50.

Figure 27 PI SeineSounder sensor view



A **Sensor identifier**: The identifier is the **Label ID** parameter, the sensor name is the **Sensor Value Name** parameter. You can control these parameters in the **Select Sensors** dialog.

The colour code is issued automatically by the PI50 system. The same colour is used in the **Trend view** and in the **History field**.

B **Current height**: This is the height from the strongest echo (seabed or footrope) under the sensor, and up to the position on the gear in which the sensor is mounted. The current measurement unit is shown, as well as two blue arrowheads.

The two arrowheads indicate the current vertical movement of the sensor; up or down. In this example the sensor is slowly increasing with 5 meters each minute. If the two arrowheads are pointing towards each other, the height is decreasing. If they are pointing away from each other, the height is increasing.

C **Height changes**: This digit shows height changes recorded by the sensor. The value is shown in units per minute. The direction is shown with the two blue arrowheads. If the sensor does not detect any height changes, the triangles are removed.

D **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

E **Pulse lamp and Trend view icons**: The green **Pulse lamp** icon flashes every time a signal is received from the sensor. Click the **Trend view** icon to open (and close) the **Trend view** for the sensor.

F **Current depth**: This the current depth measured by the sensor. The current measurement unit is shown, as well as a blue arrowhead. The arrowhead indicates the current vertical movement of the sensor; up or down. In this example the sensor measures 82,5 meters from the sea surface and down to the sensor, and the sensor – and thus the gear – is slowly rising with 3 meters each minute.

G **Depth changes**: This digit shows depth changes recorded by the sensor, and thus the ascending or descending speed of the net. The value is shown in units per minute. The direction is shown with the blue arrowhead. If the sensor does not detect any depth changes, the arrowhead is removed.

H **History field**: When the size of the presentation rectangle permits, a history field is shown. The field offers a graphical presentation of the sensor information for the last 20 minutes. The vertical range is set automatically defined by the current measurements.

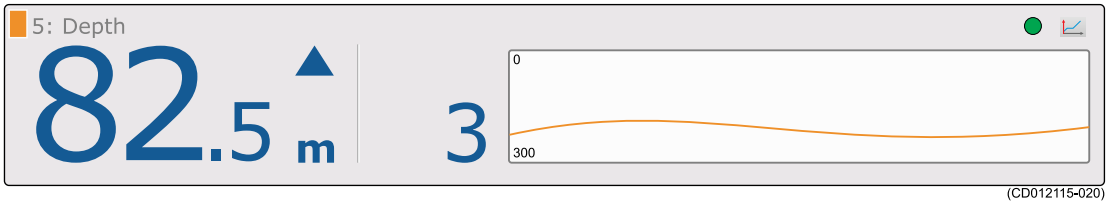
PI Remote/Depth sensor view

The purpose of the Simrad PI Remote/Depth dual sensor is to achieve accurate measurements of the water depth, while at the same time communicate with the PI Spread or PI Spread/Depth sensor to measure the distance between the two trawl doors.

In order to measure the distance, it must be installed in a pair with a PI Spread or PI Spread/Depth sensor.

The PI Remote/Depth sensor has been developed to be used on both bottom and pelagic trawls. The sensor is normally installed on the starboard trawl door using an adapter.

Figure 28 PI Depth sensor view



The PI Remote/Depth sensor is regarded – and must be set up – as a PI Depth sensor. The second function (Remote) provided by this sensor does not involve a dedicated presentation.

→ *PI Depth sensor view* on page 39

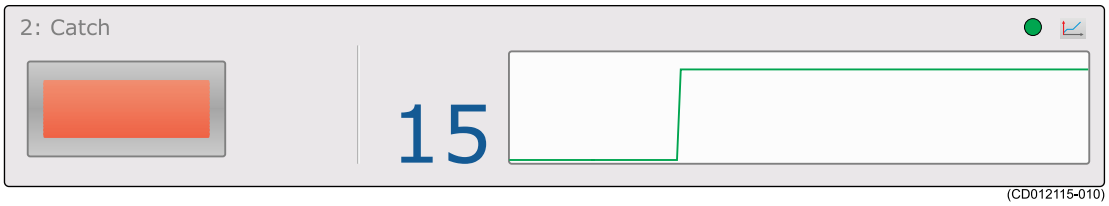
PI Rip sensor view

The PI Rip sensor will let you know immediately if your net is torn apart.

The Simrad PI Rip sensor is identical to the PI Catch sensor, but uses other rubber band sensors. It can thus be regarded as a second application for the Simrad PI Catch sensor.

Place the sensor on the trawl belly behind the footrope, and use it to detect if the trawl is damaged by rocks or other items on the bottom. If this is detected, you can immediately adjust the gear to minimise the damage.

Figure 29 Catch sensor view



The PI Rip sensor is regarded – and must be set up – as a PI Catch sensor.

→ *PI Catch sensor view* on page 38

Trend views

The **Trend view** is opened by clicking the icon in the top right corner of the **Sensor view** rectangle. The view comprises a graph. The graph displays the historic development of the information provided by the sensor.

Once opened, the graph is placed on the left side of the screen. If more than one graph is opened, they are placed on top of each other, in the order you open them. The vertical size of each graph is automatically adjusted. The curve provided by the graph uses the same colour that is used to identify the sensor in the **Sensor view**. The colour is chosen automatically by the PI50.

PI Bottom Contact trend view

Figure 30 PI Bottom Contact trend view

The PI Bottom Contact trend view shows when the sensor has been activated.

a The vertical scale is fixed.

b The horizontal scale is defined by the parameter selected in the **Trend History Length** button on the **Display** menu.

The time can be selected from 5 to 1440 minutes (24 hours).

c The curve in the graph has the same colour as used to identify the sensor in the **Sensor view**. The label at the right end of the curve identifies the sensor's **Label ID** and the type of sensor.

d The curve simply shows when the sensor has been triggered.

PI Catch trend view

Figure 31 PI Catch trend view

The PI Catch trend view shows when the sensor has been triggered.

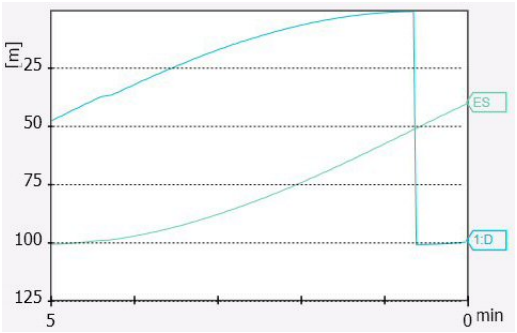
a The vertical scale is fixed.

b The curve in the graph has the same colour as used to identify the sensor in the **Sensor view**. The label at the right end of the curve identifies the sensor's **Label ID** and the type of sensor.

c The curve simply shows when the sensor has been triggered.

PI Depth trend view

Figure 32 PI Depth trend view



The PI Depth trend view shows the depth values recorded by the sensor.

a The vertical scale is defined by the settings made with the **Range** and **Start Range** buttons on the **Main** menu.

b The horizontal scale is defined by the parameter selected in the **Trend History Length** button on the **Display** menu.

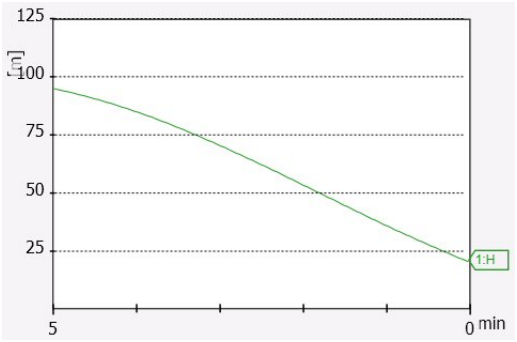
The time can be selected from 5 to 1440 minutes (24 hours).

c The curve in the graph has the same colour as used to identify the sensor in the **Sensor view**. The label at the right end of the curve identifies the sensor's **Label ID** and the type of sensor.

d If an external echo sounder is connected to the PI50, the depth recorded by the sounder is also shown. The curve is identified with the label **ES** on the right side.

PI Height trend view

Figure 33 PI Height trend view



The PI Height trend view shows the height values recorded by the sensor.

a The vertical scale is defined by the settings made with the **Range** and **Start Range** buttons on the **Main** menu.

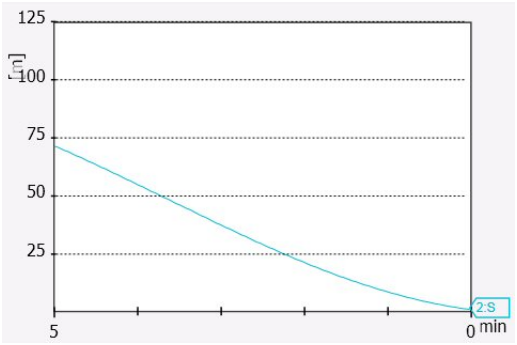
b The horizontal scale is defined by the parameter selected in the **Trend History Length** button on the **Display** menu.

The time can be selected from 5 to 1440 minutes (24 hours).

c The curve in the graph has the same colour as used to identify the sensor in the **Sensor view**. The label at the right end of the curve identifies the sensor's **Label ID** and the type of sensor.

PI Spread trend view

Figure 34 PI Spread trend view



The PI Spread trend view shows the distance between the trawl doors.

a The vertical scale is defined by the settings made with the **Range** and **Start Range** buttons on the **Main** menu.

b The horizontal scale is defined by the parameter selected in the **Trend History Length** button on the **Display** menu.

The time can be selected from 5 to 1440 minutes (24 hours).

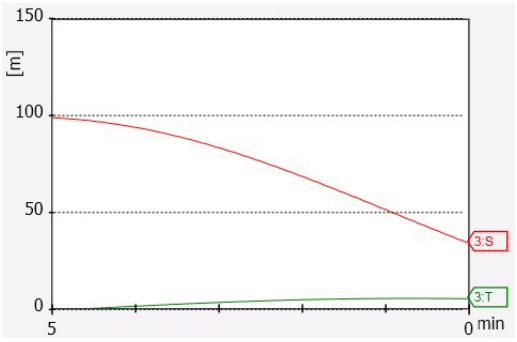
c The curve in the graph has the same colour as used to identify the sensor in the **Sensor view**. The label at the right end of the curve identifies the sensor's **Label ID** and the type of sensor.

Related topics

- *PI Spread sensor view* on page 43
- *PI Spread trend view* on page 61
- *How to set up the PI Spread sensor* on page 80
- *How to set up spread and depth sensors to measure vertical geometry* on page 95

PI Twin Spread trend view

Figure 35 PI Twin Spread trend view



The PI Twin Spread trend view shows the distance between the trawl doors in a dual trawl system.

a Two curves are shown, one for the port spread, on one for the starboard spread.

b The vertical scale is defined by the settings made with the **Range** and **Start Range** buttons on the **Main** menu.

c The horizontal scale is defined by the parameter selected in the **Trend History Length** button on the **Display** menu.

The time can be selected from 5 to 1440 minutes (24 hours).

d The history curves use the same two colours that are used to identify the starboard and port measurement. The labels at the right end of the curve identify the sensor's **Label ID** and the type of sensor.

PI Spread/Depth trend view

El PI de Distancia/Profundidad Maestro proporciona dos presentaciones de tendencias separadas, una para la distancia y una para la profundidad. Para más información, véase:

→ *PI Spread trend view* on page 61

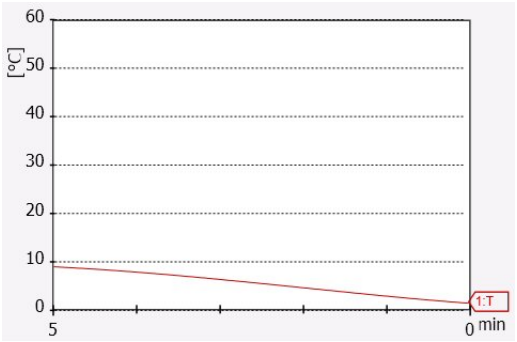
→ *PI Depth trend view* on page 60

Related topics

- *PI Spread/Depth sensor view* on page 45
- *PI Spread/Depth trend view* on page 62
- *How to set up the PI Spread/Depth sensor* on page 87

PI Temperature trend view

Figure 36 PI Temperature trend view



The PI Temperature trend view shows the temperature changes recorded by the sensor.

A The vertical scale is set up automatically.

B The horizontal scale is defined by the parameter selected in the **Trend History Length** button on the **Display** menu.

The time can be selected from 5 to 1440 minutes (24 hours).

C The curve in the graph has the same colour as used to identify the sensor in the **Sensor view**. The label at the right end of the curve identifies the sensor's **Label ID** and the type of sensor.

PI Temperature/Depth trend view

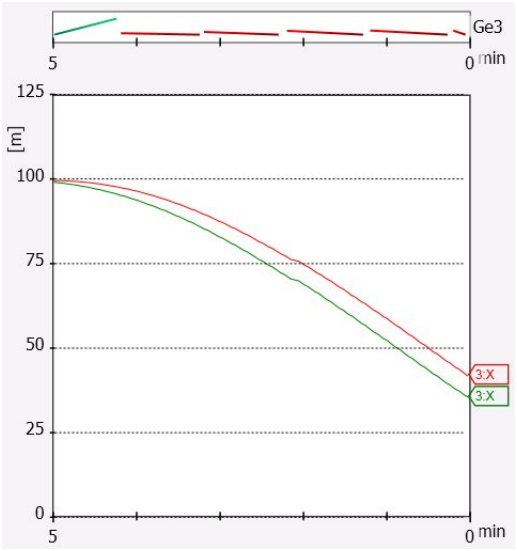
The PI Temperature/Depth provides two separate trend views, one for temperature and one for depth. For information, see:

→ *PI Depth trend view* on page 60

→ *PI Temperature trend view* on page 62

PI Geometry trend view

Figure 37 PI Geometry trend view



The PI Geometry provides two trend views that can be opened individually. The shows the distance between the centre of the trawl and the two trawl doors.

The top graph provides an overall description of the geometry. The bottom graph presents a more detailed view of the two distances that are measured by the sensor.

A The vertical scale is defined by the settings made with the **Range** and **Start Range** buttons on the **Main** menu.

B The horizontal scale is defined by the parameter selected in the **Trend History Length** button on the **Display** menu.

The time can be selected from 5 to 1440 minutes (24 hours).

C The history curves use the same two colours that are used to identify the starboard and port measurement. The labels at the right end of the curve identify the sensor's **Label ID** and the type of sensor.

PI Height/Depth trend view

The PI Height/Depth provides two separate trend views, one for height and one for depth. For information, see:

→ *PI Height trend view* on page 60

→ *PI Depth trend view* on page 60

Related topics

- *PI Height/Depth sensor view* on page 54
- *PI Height/Depth trend view* on page 63
- *How to set up the PI Height/Depth sensor* on page 86

PI SeineSounder trend view

The PI SeineSounder provides two separate trend views, one for height and one for depth. For information, see:

→ *PI Height trend view* on page 60

→ *PI Depth trend view* on page 60

PI Remote/Depth trend view

The PI Remote/Depth provides a depth graph. For information, see:

→ *PI Depth trend view* on page 60

PI Rip trend view

The PI Rip provides a catch graph. For information, see:

→ *PI Catch trend view* on page 59

Screen captures

The PI50 provides a built-in screen capture function.

To save all the information on the complete screen, click the **Screen Capture** button on the **Title Bar**.

To access the images, click **Screen Captures** on the **Display** menu. This will open a file folder, and you can use standard operating systems to delete, copy, rename or move the files.

Operational procedures

This chapter contains several operational procedures explaining how you can put your Simrad PI50 to use.

Menu navigation employed by Simrad PI50 is similar to the other Simrad applications which follow the user interface standards developed by Simrad. The main menu is normally located at the right side of the screen, and by means of dedicated icons at the bottom of the main menu, you can open the relevant sub-menus or dialogs. Menu choices shown in dark colours are not available for the current operation or operational mode.

Are there any procedures missing? Are you performing an operation that we have not explained? Write an e-mail to simrad.support@simrad.com and ask. We may then include the procedure in the next version of this manual.

Topics

- *User settings* on page 67
- *User preferences* on page 69
- *How to select and set up the sensors* on page 72
- *Sensor presentation procedures* on page 92
- *Alarms and messages* on page 100
- *Software procedures* on page 103

Related topics

- *Power on* on page 16
- *Power off* on page 17
- *Starting normal operation* on page 19

User settings

The PI50 allows you save an unlimited number of user settings [4]. All parameters you have entered to set up the PI50 to suit your preferences are then saved, and you can use any name - including your own - to identify the saved settings. Whenever required, you can retrieve these settings, and continue your work.

To reset the entire PI50, you can also retrieve the factory default settings.

Topics

- *How to save the current user settings* on page 67
- *How to use previously saved settings* on page 68
- *How to reset the PI50 to factory default parameters* on page 68

How to save the current user settings

This procedure explains how to save the current configuration and parameter settings.

If you have several users with favourite configurations, if you work with different gears, or with different hardware configurations, depth or bottom conditions, we recommend that you save the PI50 operational parameters for future use.

If you have several different sensor configurations dedicated for various gears or different tasks, we also strongly recommend that you save these.

The settings saved using the **User Settings** functionality includes all receiver settings, interface parameters, as well as the currently selected sensors and their communication parameters. This is useful if you operate a combined trawler and seiner using different sensor setup on the different gears.

1. Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.
2. Click the **User Settings** button to open the **User Settings** dialog.

3. In the **User Setting** dialog, click the **Save Current Setting** button.
4. In the **Setting** dialog, click **OK** to accept the suggested name.
5. You can also choose a different name.

   If you have a keyboard connected to the PI50 computer, you can click in the text field, remove the suggestion, and enter any name.

   If you do not have a computer keyboard connected to your PI50 system, click the **Keyboard** button to open an on-screen keyboard.

   Click **OK** to save the settings with the chosen name.
6. Observe that the name you have chosen appears on the **Saved Settings** list.
7. Click **OK** to save the current settings and close the dialog.

4. The number of user settings you can save is limited only by the size of your hard disk.

How to use previously saved settings

If you have saved sensor configurations dedicated for different gears or different tasks, you can retrieve these for fast and efficient parameter setup.

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 Click the **User Settings** button to open the **User Settings** dialog.

3 In the **User Setting** dialog, click once on the requested saved settings in the **Saved Settings** list.

4 Click **Activate Selected Setting**.

5 Click **OK** to save the current settings and close the dialog.

How to reset the PI50 to factory default parameters

If the current settings are unreliable, or you simply wish to reset the PI50 to a known set of parameters, choose the factory setting provided.

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 Click the **User Settings** button to open the **User Settings** dialog.

3 In the **User Settings** dialog, click one of the factory settings in the top text field:

- **Simrad Factory Default**
- **Simrad Purse Setup**
- **Simrad Trawl Setup**

4 Click the **Activate Selected Setting**, then click **Close**.

User preferences

This section provides procedures related to user preferences and individual customising.

Topics

- *How to select menu language* on page 69
- *How to choose colour presentation theme (palette)* on page 69
- *How to choose screen brightness* on page 70
- *How to select measurement units* on page 70
- *How to control the order of the sensor views* on page 71

How to select menu language

The menu buttons – as well as other text – in the PI50 presentation are available in several languages.

1 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

2 Click the **Display** icon under the **Main** menu to open the **Display** menu.

→ *Display menu* on page 111

3 Click the middle of the **Language** button to open the list of available languages.

4 Click once on the language you wish to use.

5 Observe that the sub-menu is closed, and that all text in the menu buttons change to the selected language.

How to choose colour presentation theme (palette)

The PI50 presentation may be set up using one of several colour themes. In the menu system, these are called *palettes*.

The **Palette** parameter allows you to select the background colours and day/night contrast of the display presentation in order to suit you personal preferences.

The choice you make here does not have any effect on the PI50 performance.

To change the palette, click either side of the button, or on the middle of the button to open the menu.

1 Click the **Display** icon under the **Main** menu to open the **Display** menu.

→ *Display menu* on page 111

2 Click the middle of the **Palette** button, and observe the choices.

3 Click the palette you wish to use. The changes are made immediately.

How to choose screen brightness

This procedure explains how to reduce the intensity of the light emitted from the display.

When the bridge is dark, the light emitted by the PI50 display can affect your night vision. In order to compensate for this, you can reduce the intensity. The **Screen Brightness** allows you to reduce the this brightness, and hence make the display darker. The intensity of light emitted by the display can be reduced from 100% to 0% in steps of 10.

1 Click the **Display** icon under the **Main** menu to open the **Display** menu.

→ *Display menu* on page 111

2 Click either side of the **Screen Brightness** button to make the adjustment.

How to select measurement units

This procedure explains how to change the measurement units in the PI50 presentations.

Use the **Units** dialog to set up the various units of measurements you wish to work with. The PI50 will use these in all presentations. Normally, you will only need to define these once.

Use the spin boxes in the dialog to make the selections.

1 Click the **Display** icon under the **Main** menu to open the **Display** menu.

→ *Display menu* on page 111

2 Click **Units** to open the **Units** dialog.

3 Make the necessary adjustments.

4 Click **OK** to save the current settings and close the dialog.

How to control the order of the sensor views

You can control the vertical order of the Sensor view rectangles. This is configuration is made in the **Select Sensors** dialog.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click the **Select Sensors** button to open the **Select Sensors** dialog.

3 Observe the list of sensors in the **Selected Sensors** field.

4 In the **Selected Sensors** field, click once on a sensor to select it.

5 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

6 Click **OK** to save the current settings and close the dialog.

How to select and set up the sensors

This section provides the procedures to set up the various PI sensors supported by the PI50. A generic procedure is offered, as well as separate procedures for each sensor type. All sensors are set up using the **Select Sensors** dialog.

Topics

- *Generic procedure* on page 72
- *How to set up the PI Bottom Contact sensor* on page 75
- *How to set up the PI Catch sensor* on page 76
- *How to set up the PI Depth sensor* on page 78
- *How to set up the PI Height sensor* on page 79
- *How to set up the PI Spread sensor* on page 80
- *How to set up the PI Temperature sensor* on page 82
- *How to set up the PI Temperature/Depth sensor* on page 83
- *How to set up the PI Geometry sensor* on page 84
- *How to set up the PI Height/Depth sensor* on page 86
- *How to set up the PI Spread/Depth sensor* on page 87
- *How to set up the PI Twin Spread sensor* on page 89
- *How to set up the PI SeineSounder sensor* on page 90
- *How to set up the PI Remote/Depth sensor* on page 90
- *How to set up the PI Rip sensor* on page 91

Generic procedure

The PI50 allows you to put the entire PI sensor range to use. However, you must select the sensors that you wish to use, set them up in the order you wish to see them on the screen, and select the operational parameters. Both the sensor selection and the parameter setup are done in the **Select Sensors** dialog.

Tip

If you have several sensor configurations dedicated for different gears or different tasks, we strongly recommend that you save these for future use.

→ *How to save the current user settings* on page 67

1. Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.
2. Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

3 Click the **Select Sensors** button to open the **Select Sensors** dialog.

4 Observe the **Available Sensors** field on the upper left side of the dialog. It lists all the sensor types supported by the PI50.

5 Click once a sensor type to select it.

6 Click the [►] button to copy the chosen sensor to the **Selected Sensors** list.

7 Repeat to select all requested sensors.

The PI50 system will keep track of the quantity of sensors you are adding to the **Selected Sensors** list. If you try to add too many sensors, a message will let you know.

If you need to remove a sensor from the **Selected Sensors** list, click on it, and then click the [◄] button.

8 In the **Select Sensors** dialog, observe the items in the **Selected Sensors** list.

Note

The order of the sensors in this list is also reflected to the order of the sensor view rectangles

→ *How to control the order of the sensor views* on page 71

9 Click once a sensor type to select it.

10 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

11 Observe the list of sensors in the **Sensor Configuration** field at the bottom of the dialog.

12 For each sensor in the **Sensor Configuration** field:

A Choose **Label ID** (identification).

a **Label ID**

This number is used to identify the sensor.

The ID must be unique for each sensor, and we recommend that you let it match the physical label placed on the sensor. The number you choose will be used in the Sensor view.

→ *Sensor views* on page 37

b The *order* in which the Sensor views are presented is defined by the order in the **Selected Sensors** list.

B Choose **Label Name**.

- **Label Name**

  By default, the **Label Name** is the same as the sensor name listed with the **Available sensors**.

  Click in the field to enter another name.

  If you do not have a computer keyboard connected to your PI50 system, click the **Keyboard** button to open an on-screen keyboard.

  The **Label Name** is only shown in this dialog.

C Choose **Update Rate**.

a **Update Rate**

This parameter i used to select the sensor's update rate.

This is how often the PI50 can expect to receive information from the sensor.

Note

*The **Update Rate** parameter is vital. The update rate you choose here must comply to the update rate programmed into the sensor. If these do not match, the communication will not work.*

The default update rates for the various sensors are listed in chapter *PI50 Sensors*.

To change the channel number in the sensor, use the PI Configurator utility.

D Choose **Sensor Value Name**.

a **Sensor Value Name**

By default, the **Sensor Value Name** is the same as the sensor name listed in the **Available Sensors** list. If you have a keyboard connected to the PI50 computer, you can click in the field, and enter another name. You can also open the on-screen keyboard.

The **Sensor Value Name** is used in the Sensor views. If you are setting up a dual sensor, you can enter two different names, for example "Port door" and "Starboard door".

→ *Sensor views* on page 37

Example: If you have three PI Catch sensors on your trawl, you can name them "20 Ton", "40 Ton" and "60 Ton".

E Choose **Channel Number**.

a **Channel Number**

This is the communication channel used between the sensor and the PI50 system.

Note

*The **Channel Number** parameter is vital. The communication channel number you choose here must comply to the channel number programmed into the sensor. If these do not match, the communication will not work. By default, the channel number will match the factory setting.*

If you use more than one sensors of the same type at the same time , the channel number of one of the sensors must be changed to make it unique for the sensor. This must be changed both in the actual sensor, and in the **Select Sensors** dialog during configuration.

The default communication channels for the various sensors are listed in chapter *PI50 Sensors*.

To change the channel number on the sensor, use the PI Configurator utility.

F Observe the **Offset** value.

a **Offset**

Sensors measuring spread and depth can have an offset value.

The offset value for the depth sensors are determined during calibration.

→ *How to calibrate the depth sensors* on page 24

The offset value for the spread sensor must be entered manually based on your knowledge about the physical locations of the sensors and the properties of the gear.

13 Click **Apply** to save the sensor configuration.

14 Check that all sensors are shown in the PI50 presentation.

15 Click **OK** to save the current settings and close the dialog.

How to set up the PI Bottom Contact sensor

This procedure explains how to set up the PI Bottom Contact sensor for use.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click the **Select Sensors** button to open the **Select Sensors** dialog.

3 Observe the **Available Sensors** field on the upper left side of the dialog. It lists all the sensor types supported by the PI50.

4 Click once on the Bottom Contact sensor in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

The PI50 can handle maximum six sensors. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on a sensor to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

8 In the **Sensor Configuration** field, choose:

a Label ID

b Label Name

c Update Rate

d Sensor Value Name

The name you enter here is shown in the Sensor view.

→ *PI Bottom Contact sensor view* on page 37

e Channel Number

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

9 If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

How to set up the PI Catch sensor

This procedure explains how to set up the PI Catch sensor for use.

Note

This procedure is also used to set up the PI Rip sensor.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click the **Select Sensors** button to open the **Select Sensors** dialog.

3 Observe the **Available Sensors** field on the upper left side of the dialog. It lists all the sensor types supported by the PI50.

4 Click once on the Catch sensor in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

The PI50 can handle maximum six sensors. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on a sensor to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

8 In the **Sensor Configuration** field, choose:

a Label ID

b Label Name

c Update Rate

d Sensor Value Name

The name you enter here is shown in the Sensor view. If you have more than one Catch sensor, you can use this field to enter dedicated names for each of them.

→ *PI Catch sensor view* on page 38

e Channel Number

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

9 If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

How to set up the PI Depth sensor

This procedure explains how to set up the PI Depth sensor for use.

Note

This procedure is also used to set up the PI Remote/Depth sensor.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click the **Select Sensors** button to open the **Select Sensors** dialog.

3 Observe the **Available Sensors** field on the upper left side of the dialog. It lists all the sensor types supported by the PI50.

4 Click once on the Depth sensor in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

Three sensor versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility.

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

The PI50 can handle maximum six sensors. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on a sensor to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

8 In the **Sensor Configuration** field, choose:

a Label ID

b Label Name

c Update Rate

d Sensor Value Name

The name you enter here is shown in the Sensor view.

→ *PI Depth sensor view* on page 39

e Channel Number

f Offset for the depth sensor

The offset for the sensor is calculated automatically by means of the calibration procedure. If you already know the offset value, you can enter it directly.

→ *How to calibrate the depth sensors* on page 92

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

9 Click the **Advanced Sensor Configuration** button, and observe that additional choices are added to the **Sensor Configuration** field.

10 If you have a Height sensor in use, and it is physically mounted near the depth sensor, you can set up a connection to it.

This will allow the PI50 to show you the gear related to both surface and bottom. The PI50 can also calculate and display the total water depth.

→ *How to set up depth and height sensors to measure total water depth* on page 97

11 If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

How to set up the PI Height sensor

This procedure explains how to set up the PI Height sensor for use.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click the **Select Sensors** button to open the **Select Sensors** dialog.

3 Observe the **Available Sensors** field on the upper left side of the dialog. It lists all the sensor types supported by the PI50.

4 Click once on the Height sensor in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

The PI50 can handle maximum six sensors. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on a sensor to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

8 In the **Sensor Configuration** field, choose:

a Label ID

b Label Name

c Update Rate

d Sensor Value Name

The name you enter here is shown in the Sensor view.

→ *PI Height sensor view* on page 41

e Channel Number

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

9 Click the **Advanced Sensor Configuration** button, and observe that additional choices are added to the **Sensor Configuration** field.

10 Enter the trawl opening.

This will allow the trawl opening to be shown in the PI Height trend view.

→ *How to set up the height sensor to show the trawl opening* on page 97

11 If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

How to set up the PI Spread sensor

This procedure explains how to set up the PI Spread sensor for use.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click the **Select Sensors** button to open the **Select Sensors** dialog.

3 Observe the **Available Sensors** field on the upper left side of the dialog. It lists all the sensor types supported by the PI50.

4 Click once on the Spread sensor in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

Two Spread versions are available. These are set up for standard or extended (XT) spread range. This configuration can be changed in the PI Configurator utility.

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

The PI50 can handle maximum six sensors. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on a sensor to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

8 In the **Sensor Configuration** field, choose:

a Label ID

b Label Name

c Update Rate

d Sensor Value Name

The name you enter here is shown in the Sensor view.

→ *PI Spread sensor view* on page 43

e Channel Number

f Offset for the spread sensor

The offset for the spread sensor must be entered manually based on your knowledge about the sensor installation and the properties of the gear. You can enter a value between +99 and –99 meters.

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

9 Click the **Advanced Sensor Configuration** button, and observe that additional choices are added to the **Sensor Configuration** field.

10 Connect the Spread sensor with port and/or starboard Depth sensor.

This will allow you to set up the system to measure vertical geometry. Refer to the dedicated procedure.

→ *How to set up spread and depth sensors to measure vertical geometry* on page 95

11 If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

Related topics

- *PI Spread sensor view* on page 43
- *PI Spread trend view* on page 61
- *How to set up the PI Spread sensor* on page 80
- *How to set up spread and depth sensors to measure vertical geometry* on page 95

How to set up the PI Temperature sensor

This procedure explains how to set up the PI Temperature sensor for use.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click the **Select Sensors** button to open the **Select Sensors** dialog.

3 Observe the **Available Sensors** field on the upper left side of the dialog. It lists all the sensor types supported by the PI50.

4 Click once on the Temperature sensor in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

The PI50 can handle maximum six sensors. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on a sensor to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

8 In the **Sensor Configuration** field, choose:

a Label ID

b Label Name

c Update Rate

d Sensor Value Name

The name you enter here is shown in the Sensor view.

→ *PI Temperature sensor view* on page 47

e Channel Number

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

9 If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

How to set up the PI Temperature/Depth sensor

This procedure explains how to set up the PI Temperature/Depth sensor for use.

Note

This is a "dual" sensor. It will seize two communication channels on the PI50.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click the **Select Sensors** button to open the **Select Sensors** dialog.

3 Observe the **Available Sensors** field on the upper left side of the dialog. It lists all the sensor types supported by the PI50.

4 Click once on the Temperature/Depth sensor in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

Three sensor versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility.

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

The PI50 can handle maximum six sensors. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on a sensor to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

8 In the **Sensor Configuration** field, choose:

a Label ID

b Label Name

c Update Rate for each of the two sensors

d Sensor Value Name for each of the two sensors

e These names you enter are shown in the Sensor views.

→ *PI Temperature/Depth sensor view* on page 48

f Channel Number

g Offset for the depth sensor

The offset for the sensor is calculated automatically by means of the calibration procedure. If you already know the offset value, you can enter it directly.

→ *How to calibrate the depth sensors* on page 92

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

9 If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

How to set up the PI Geometry sensor

This procedure explains how to set up the PI Geometry sensor for use.

The following PI Geometry versions exist:

- **Geometry Fine** – High resolution icon to detect smaller changes
- **Geometry Coarse** – Low resolution icon to detect larger changes
- **Geometry XT (Extended) Fine** – Extended range, high resolution icon to detect smaller changes
- **Geometry XT (Extended) Coarse** – Extended range, low resolution icon to detect larger changes
- **Geometry DF (Differential) Fine** – differential measurement (single channel), high resolution icon to detect smaller changes
- **Geometry DF (Differential) Coarse** – differential measurement (single channel), low resolution icon to detect larger changes

The **DF (Differential)** Geometry sensor setting will only use one channel on the PI system, but will not provided extended range.

The **Coarse** or **Fine** settings are not defined by the sensor configuration, but in the PI menu system.

On the PI44/54 systems the phrases **Sensitive** and **Coarse** are used.

Note

The PI Geometry Differential (DF) sensor versions are both "single" sensors. The other PI Geometry versions are all "dual" sensors. They will seize two communication channels on the PI50.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click the **Select Sensors** button to open the **Select Sensors** dialog.

3 Observe the **Available Sensors** field on the upper left side of the dialog. It lists all the sensor types supported by the PI50.

4 Click once on the Geometry sensor in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

The PI50 can handle maximum six sensors. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on a sensor to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

8 In the **Sensor Configuration** field, choose:

a Label ID

b Label Name

c Update Rate for each of the two sensors

d Sensor Value Name for each of the two measurements, for example "port" and "starboard".

If you use a differential configuration, you only need to enter one name.

The names you enter are shown in the Sensor views.

→ *PI Geometry sensor view* on page 50

e Channel Number

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

9 If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

How to set up the PI Height/Depth sensor

This procedure explains how to set up the PI Height/Depth sensor for use.

Note

This procedure is also used to set up a PI SeineSounder sensor.

Three sensor versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility.

Note

This is a "dual" sensor. It will seize two communication channels on the PI50.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click the **Select Sensors** button to open the **Select Sensors** dialog.

3 Observe the **Available Sensors** field on the upper left side of the dialog. It lists all the sensor types supported by the PI50.

4 Click once on the Height/Depth sensor in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

The PI50 can handle maximum six sensors. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on a sensor to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

8 In the **Sensor Configuration** field, choose:

a Label ID

b Label Name

c Update Rate for each of the two sensors

d Sensor Value Name for each of the two sensors

e These names you enter are shown in the Sensor views.

→ *PI Height/Depth sensor view* on page 54

f Channel Number

g Offset for the depth sensor

The offset for the sensor is calculated automatically by means of the calibration procedure. If you already know the offset value, you can enter it directly.

→ *How to calibrate the depth sensors* on page 92

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

9 If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

Related topics

- *PI Height/Depth sensor view* on page 54
- *PI Height/Depth trend view* on page 63
- *How to set up the PI Height/Depth sensor* on page 86

How to set up the PI Spread/Depth sensor

This procedure explains how to set up the PI Spread/Depth sensor for use.

Three sensor versions are available. These are set up for maximum depth 300 m, 600 m or 1000 m. The depth range is fixed by the factory, and can not be changed in the PI Configurator utility.

Two Spread versions are available. These are set up for standard or extended (XT) spread range. This configuration can be changed in the PI Configurator utility.

Note

This is a "dual" sensor. It will seize two communication channels on the PI50.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click the **Select Sensors** button to open the **Select Sensors** dialog.

3 Observe the **Available Sensors** field on the upper left side of the dialog. It lists all the sensor types supported by the PI50.

4 Click once on the Spread/Depth sensor in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

The PI50 can handle maximum six sensors. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on a sensor to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

8 In the **Sensor Configuration** field, choose:

a Label ID

b Label Name

c Update Rate for each of the two sensors

d Sensor Value Name for each of the two sensors

These names you enter are shown in the Sensor views.

→ *PI Spread/Depth sensor view* on page 45

e Channel Number

f Offset for the depth sensor

The offset for the sensor is calculated automatically by means of the calibration procedure. If you already know the offset value, you can enter it directly.

→ *How to calibrate the depth sensors* on page 92

g Offset for the spread sensor

The offset for the spread sensor must be entered manually based on your knowledge about the sensor installation and the properties of the gear. You can enter a value between +99 and –99 meters.

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

9 Click the **Advanced Sensor Configuration** button, and observe that additional choices are added to the **Sensor Configuration** field.

10 Connect the Spread/Depth sensor with starboard Depth sensor.

This will allow you to set up the system to measure vertical geometry. Refer to the dedicated procedure.

→ *How to set up spread and depth sensors to measure vertical geometry* on page 95

11 If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

Related topics

- *PI Spread/Depth sensor view* on page 45
- *PI Spread/Depth trend view* on page 62
- *How to set up the PI Spread/Depth sensor* on page 87

How to set up the PI Twin Spread sensor

This procedure explains how to set up the PI Twin Spread sensor for use.

Note

This is a "dual" sensor. It will seize two communication channels on the PI50.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click the **Select Sensors** button to open the **Select Sensors** dialog.

3 Observe the **Available Sensors** field on the upper left side of the dialog. It lists all the sensor types supported by the PI50.

4 Click once on the Twin Spread sensor in the list, then click the [►] button to copy the sensor to the **Selected Sensors** list.

5 Observe that an error message appears if you try to add too many sensors to the **Selected Sensors** field.

The PI50 can handle maximum six sensors. Remember that dual sensors each seize two communication channels.

6 In the **Selected Sensors** field, click once on a sensor to select it.

7 Click one of the [▲] or [▼] buttons to move the sensor up or down on the list in the **Selected Sensors** field.

The order in this list also controls the order in which the sensors are presented in the **Sensor Configuration** field, as well as the vertical order of the sensor view rectangles in the PI50 display presentation.

→ *How to control the order of the sensor views* on page 71

8 In the **Sensor Configuration** field, choose:

a Label ID

b Label Name

c Common Update Rate for the two measurements

d Sensor Value Name for each of the two sensors

These names you enter are shown in the Sensor views.

→ *PI Twin Spread sensor view* on page 44

e Channel Number

f Offset for the spread sensor

The offset for the spread sensor must be entered manually based on your knowledge about the sensor installation and the properties of the gear. You can enter a value between +99 and –99 meters.

Note

*It is very important that the **Channel number** and **Update Rate** parameters defined for each sensor in the **Select Sensors** dialog matches the corresponding parameters programmed into the sensor. If these vital parameters do not match, you will not receive information from the sensor.*

9 If this is the only sensor you wish to set up, or the last sensor, click **Ok** to save the settings and close the dialog.

How to set up the PI SeineSounder sensor

The PI SeineSounder sensor is set up as a PI Height/Depth sensor.

→ *How to set up the PI Height/Depth sensor* on page 86

How to set up the PI Remote/Depth sensor

The PI Remote/Depth sensor is set up as a PI Depth sensor.

→ *How to set up the PI Depth sensor* on page 78

How to set up the PI Rip sensor

The PI Rip sensor is set up as a PI Catch sensor.

→ *How to set up the PI Catch sensor* on page 76

Sensor presentation procedures

This section provides the procedures to calibrate sensors, reset timers, apply filters and set up special presentations.

Topics

- *How to calibrate the depth sensors* on page 92
- *How to reset the sensor counter* on page 93
- *How to smooth out the bottom and catch readings* on page 93
- *How to smooth out the data reception* on page 94
- *How to remove noise from the sensor data* on page 95
- *How to set up spread and depth sensors to measure vertical geometry* on page 95
- *How to set up depth and height sensors to measure total water depth* on page 97
- *How to set up the height sensor to show the trawl opening* on page 97

How to calibrate the depth sensors

Only depth sensors can be calibrated. The purpose is to make sure that the depth reported by the sensor is as accurate as possible. This procedure is carried out on board the vessel.

Note

In order to calibrate the sensor, it must be submerged in salt water.

The software provided for calibration assumes that the sensor is lowered to 1 meter deep. If you need to lower it even deeper, you will need to add this additional depth to the **Offset** value when you select and set up the sensor in the **Select Sensors** dialog.

Example: If you lower your sensor to 5 meters depth for calibration, you must enter 4 (meters) into the **Offset** for the sensor.

1 Mount a rope to the top fastening lugs on the sensor.

2 Tighten the rope, and measure one meter from the bottom of the sensor to a spot on the rope. Place a visual marker on the rope at that location.

3 Lower the sensor over the side of the vessel and into the water. Lower it until the visual marker on the rope is even with the surface.

You may wish to use a different depth reference than the sea surface. If this is the case, change the marking on the rope to fit you preference, for example the depth of the keel or the depth of an echo sounder transducer.

It is also possible to attach the sensor 1 meter under a floating device. Test this arrangement before you use, and make sure that the pressure sensor on the depth sensor is located 1 meter below the sea surface when lowered into the water.

4 Observe the numerical presentation of the sensor depth, and allow the reading to stabilize itself.

5 Observe the **Main** menu. It is normally located on the right hand side of the PI50 presentation.

6 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

7 Click **Calibration**.

8 In the **Calibration** dialog, click **Start Calibration**.

9 Wait for the PI50 system to do the calibration.

When the **Calibration** dialog closes, the calibration has finished. Click **Close** to close the dialog.

10 Observe the numerical presentation of the sensor depth, and verify that it reads 1 m.

11 Retrieve the sensor from the water.

How to reset the sensor counter

The Bottom Contact and Catch sensors have timers. These are used to keep track of how long the sensors have been activated.

1 Click the **Operation** icon under the **Main** menu to open the **Operation** sub-menu.

→ *Operation menu* on page 110

2 Click the **Reset Counters** button.

How to smooth out the bottom and catch readings

The **Catch/Bottom Filter** is used to restrict the change of state from the PI Catch and PI Bottom Contact sensors to reduce jitter in the presentation.

Set to *Light* filtering, the change in status must last and remain stable for at least two sensor transmissions before the display is updated.

When *Heavy* filtering is applied, the change in status must last and remain stable for at least eight sensor transmissions before the updated is shown on the PI50 display.

The **Catch/Bottom Filter** is available both on the **Operation** menu and in the **Receiver** dialog.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click **Receiver** to open the **Receiver** dialog.

3 Change the status of the **Catch/Bottom Filter**.

4 Click **OK** to save the current settings and close the dialog.

How to smooth out the data reception

The **Sensor Filter** can be used if you have problems with the reception. It will average the data received from the sensors.

The PI50 is designed to quickly update data. After the sensors have been submerged, the receiver requires only three consecutive pings from individual sensors to calculate and display their respective information. However, if you experience problems with the reception, you may try this filter.

The Sensor Filter offers four different settings. *Light* filtering will average the data received by the last four sensor transmissions, while *Heavy* filtering averages the data received by the last 16 transmissions.

The **Sensor Filter** is available both on the **Operation** menu and in the **Receiver** dialog.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click **Receiver** to open the **Receiver** dialog.

3 Change the status of the **Sensor Filter**.

We recommend that you use *Light* filtering if there are large fluctuations in the displayed data, or if the rate of change is small. Reduced filtering is preferable, since this shortens the delay between updating the changes in sensor data, and the corresponding displayed information.

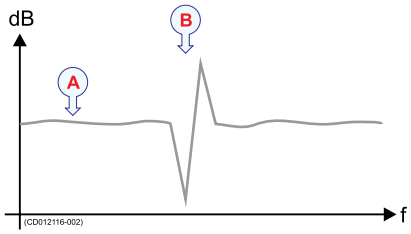
4 Click **OK** to save the current settings and close the dialog.

How to remove noise from the sensor data

The **Multipath Filter** is designed to remedy for reflections, spikes and time-lag in the sensor data. These problems may occur if neighbouring channels are used, or if the PI50 is disturbed by other hydroacoustic systems in use on own or other vessels.

When you operate in areas with substantial reverberation due to the bottom conditions, or in shallow waters, you may experience "jumps" or spikes in the data received from the sensors. Such errors can also be caused by other types of hydroacoustic equipment operating on the PI50 frequency range. This filter has been implemented to remedy for such interference problem as well.

Figure 38 Spikes



A *Stable data reading*

B *Spike caused by reflections, time-lag, reverberation or interference*

The **Multipath Filter** is available both on the **Operation** menu and in the **Receiver** dialog.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click **Receiver** to open the **Receiver** dialog.

3 Change the status of the **Multipath Filter**.

We recommend that you switch this filter *On* if there are large fluctuations in the displayed data, or if the rate of change is small. No filtering is preferable if instantaneous readings are required, since this shortens the delay between updating the changes in sensor data, and the corresponding displayed information.

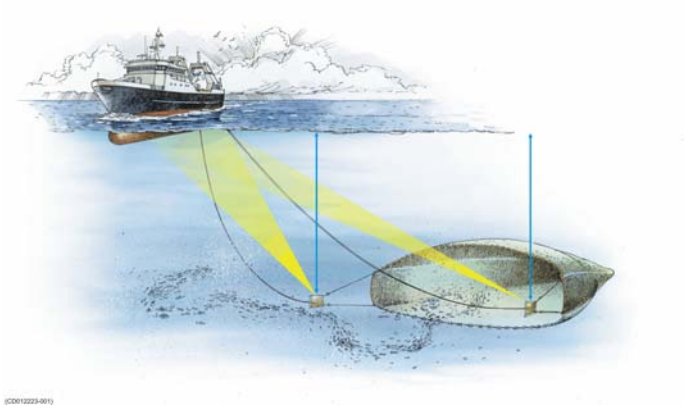
The default setting of the Multipath Filter is *On*.

4 Click **OK** to save the current settings and close the dialog.

How to set up spread and depth sensors to measure vertical geometry

If you have one depth sensor mounted on each trawl door, you can make the PI50 calculate the vertical geometry. The system will then read each of the two depth values, subtract one from the other, and show you the difference.

Figure 39 Vertical geometry measurements



Provided that the sensors are mounted on the trawl doors, the vertical geometry measurements can be made using any of the following sensors:

- PI Depth
- PI Height/Depth
- PI Spread/Depth
- PI Remote/Depth
- PI Temperature/Depth

The configuration of the vertical geometry measurement is made in the **Select Sensors** dialog during the configuration of a PI Spread sensor.

Note

You must have one depth sensor on each trawl door to measure vertical geometry.

1 Set up the depth sensor as described in the dedicated procedure.

→ *How to set up the PI Depth sensor* on page 78

→ *How to set up the PI Height/Depth sensor* on page 86

→ *How to set up the PI Temperature/Depth sensor* on page 83

→ *How to set up the PI Remote/Depth sensor* on page 90

2 Set up the spread sensor as described in the dedicated procedure.

→ *How to set up the PI Spread sensor* on page 80

→ *How to set up the PI Spread/Depth sensor* on page 87

3 For the dedicated spread sensor, click **Advanced Sensor Configuration**.

4 Connect the spread sensor to one or two depth sensors.

The available depth sensors will automatically be listed.

5 Click **OK** to save the current settings and close the dialog.

6 Observe that the vertical geometry is shown as a sensor view.

→ *PI Depth vertical geometry sensor view* on page 41

How to set up depth and height sensors to measure total water depth

If you have both a depth sensor and a height sensor mounted on the gear, you can make the PI50 calculate the total depth. The system will then read each of the two sensor values, add one to the other, and show you the sum.

The configuration of the water depth measurement is made in the **Select Sensors** dialog during the configuration of a PI Depth sensor.

Note

You must have both sensors on you gear. They must be physically located next to each other to make the total depth value correct.

1. Set up the PI Height sensor as described in the dedicated procedure.
   → *How to set up the PI Height sensor* on page 79
2. Set up the PI Depth sensor as described in the dedicated procedure.
   → *How to set up the PI Depth sensor* on page 78
3. For the dedicated depth sensor, click **Advanced Sensor Configuration**.
   The available height sensors will automatically be listed.
4. Click **OK** to save the current settings and close the dialog.
5. Observe that the total depth is shown in the PI Depth trend view.
   → *PI Depth trend view* on page 60

How to set up the height sensor to show the trawl opening

The PI Height sensor may be set up to display the trawl opening in the trend view.

The configuration of this function is made in the **Select Sensors** dialog during the configuration of a PI Height sensor.

1. Set up the PI Height sensor as described in the dedicated procedure.
   → *How to set up the PI Height sensor* on page 79
2. Click **Advanced Sensor Configuration**.
3. Enter the height of the trawl door.
4. Click **OK** to save the current settings and close the dialog.
5. Observe that the height of the trawl opening is shown in the PI Height trend view.
   → *PI Height trend view* on page 60

Receiver settings

This section provides procedures related to receiver sensitivity, interference and receiver filters.

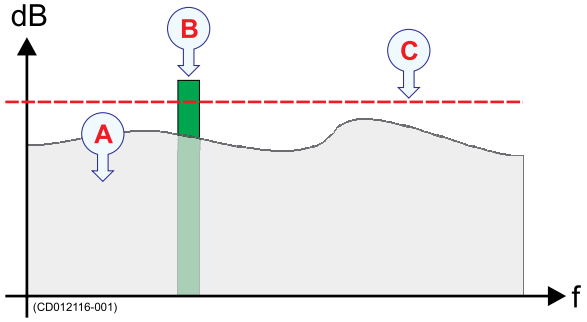
Topics

- *How to adjust the receiver sensitivity* on page 98
- *How to fight interference* on page 99

How to adjust the receiver sensitivity

The parameter used to adjust the receiver sensitivity is the **Detection Threshold (DT)**. It is adjusted in the **Receiver** dialog.

Figure 40 Detection Threshold principle



A *Noise*

B *Signal from sensor*

C *Detection threshold*

Sensor signals below the threshold level will not be detected by the PI50, while signals above the threshold will be detected. If the threshold level is set too low, the sensor signal will be buried in the noise, and this may cause false signals to be detected.

If the detection threshold is set too high, the signal from the sensor will not be detected.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click **Receiver** to open the **Receiver** dialog.

3 Adjust the level of the **Detection Threshold (DT)**.

For PI50 two different parameter ranges are used:

- **3 to 14**: By increasing the parameter value, the threshold level is increased.

  This range should normally not be used for PI50.

During special operations where extreme range is required, and the interference sources are minor, the parameter may be set to 8. If interference is present, the parameter can by increased up to maximum 14.

- **15 to 20**: By increasing the parameter value, the threshold level is decreased.

  This is the main parameter range to be used with the PI50.

The default value for the detection threshold is *17*.

4 Click **OK** to save the current settings and close the dialog.

How to fight interference

Interference is normally identified in the sensor views by readings "jumping" up and down, and deviating from their expected values. Some times you may even be provided with steady readings that are obviously wrong.

To fight this disturbance, you can adjust the **Detection Threshold (DT)** parameter provided by the **Receiver** dialog.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click **Receiver** to open the **Receiver** dialog.

3 Adjust the level of the **Detection Threshold (DT)**.

a Make sure that the **Interference Filter** is switched off.

b For normal ranges up to approximately 1500 meters:

If you experience poor reception with the sensors in the sea, try to increase the detection threshold until the data reception appears completely random. Then, decrease the parameter until you have stable data reception. If you have interference problems while no sensors have been deployed, try to decrease the detection threshold until you have a stable data reception.

c For long ranges above approximately 1500 meters:

Initially, use the same strategy as for normal range. However, if those actions are not enough to provide stable readings, try to set the detection threshold to 8. If your vessel's self noise and interference is lower than normal, you may achieve a range enhancement by using this value. If interference cause problems, try to increase the detection threshold value until the interference disappears, while still able to receive data from the sensors.

4 Click **OK** to save the current settings and close the dialog.

Alarms and messages

This section provides procedures related to alarms and messages generated by the PI50.

Topics

- *How to read and acknowledge alarms and messages* on page 100
- *How to set up sensor alarms* on page 100
- *How to access the log files* on page 101

How to read and acknowledge alarms and messages

Messages could be related to any type of hardware or software error, and even events related to operational conditions. A new message is flagged by means of the **Message** icon on the **Title bar**.

The messages are divided into five types related to their importance.

All messages are read and acknowledge in the **Messages** dialog.

1. Observe the status of the **Messages** icon on the **Title Bar**.

   If it is lit, a message awaits in the **Messages** dialog.
2. Hold the cursor over the **Messages** icon to see a short list of the current messages.
3. Click the **Messages** icon to open the **Messages** dialog.
4. Click on the applicable tab in the **Messages** dialog to see the messages in each category.
5. Click once on a message to see the extended version (when applicable) in the **Current Message** field.
6. Click any of the following buttons to acknowledge and delete messages:
   - **Acknowledge All**

     Click to acknowledge all new messages in the current list (tab).
   - **Delete All**

     Click to delete all the messages in the current list (tab).
   - **Acknowledge All**

     Click to acknowledge all new messages in the current list (tab).
   - **Delete**

     Click to delete the currently selected message.
7. Once all messages have been acknowledged and deleted as appropriate, click **Close** to close the **Messages** dialog.

How to set up sensor alarms

This procedure explains how to set up sensor alarms.

The **Alarm Limits** dialog allows you to define alarms related to the information provided by the PI sensors.

Each sensor has an individual alarm setting. To enable an alarm, you must define minimum and maximum limits within the sensor's range, and click to enable message and/or audio notification. [5]

If the alarm is triggered, an audible signal may thus be provided, and/or you will receive a message indicating which sensor that caused the alarm.

Once an alarm has been triggered, it is automatically disabled after 20 seconds. After this time it may be triggered again unless the alarm situation has been rectified, or you have disabled the alarm.

The Bottom Contact and Catch sensors can only provide alarms when they are activated.

The alarm settings you specify are automatically saved for the current session. If you also wish to keep them for future use – with the sensor configuration you have specified – click the **User Setting** button to save.

1 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

2 Click **Alarm Limits** to open the **Alarm Limits** dialog.

Observe that the **Alarm Limits** dialog is dynamic. It lists the sensors you have currently selected in the **Select Sensors** dialog, and placed them in the order you have defined. The **Label ID** and **Sensor Value Name** provided are the same as those you selected in the **Select Sensors** dialog.

3 For each sensor:

a Set up the maximum and minimum alarm limits in the spin boxes.

b Click to enable message and/or audio notification

4 To disable all alarms, remove all **Message** and **Audio** selections.

5 Click **OK** to save the current settings and close the dialog.

How to access the log files

This procedure describes how to access the log files on the PI50.

Whenever the PI50 issues a message, it is shown in the **Messages** dialog. Simultaneously, the messages are stored in a number of logging files on the hard disk. If you experience abnormal behaviour, and wish to consult your dealer and/or Simrad, these logging files are very useful. The following procedure explains how to access these files.

5. In order to hear an audible alarm, you must either place the PI50 computer in a position where the internal loudspeaker can be heard, or you must install a separate loudspeaker system.

This procedure assumes that you are familiar with the Microsoft® XP® and/or Microsoft® 7 operating system utilities for file handling.

1 Click the **Display** icon under the **Main** menu to open the **Display** menu.

→ *Display menu* on page 111

2 Click **Screen Captures** to open an operating system folder.

By default, the folder name is:

```
c:\documents and settings\All Users\Application data\Simrad\PI50\ScreenDumps
```

3 In the folder, go one step “back” (up) to:

```
c:\documents and settings\All Users\Application data\Simrad\PI50
```

4 Observe that a folder named **Log** is now visible.

5 Open the **Log** folder.

The folder contains all recent log files containing the PI50 messages.

6 Using the functionality provided by the operating system, copy the log files to a USB memory stick.

Whenever possible, send the files to your dealer.

7 Close the folder.

Software procedures

The purpose of this information is to guide you through the required tasks related to software installation and/or upgrading on the Simrad PI50.

Software upgrades are useful if your PI50 fails, and you suspect a software error. An upgrade is also required whenever the PI50 software is modified.

If the PI50 system is provided with a computer, it is delivered with all necessary software installed, configured and tested. If you use your own computer, you must do this yourself.

To check which software version you have, observe the **About** dialog opened from the **Display** menu.

If you experience problems during a software installation or upgrade, write down the installation parameters. Remove the PI50 software entirely, then reinstall from scratch.

Topics

- *How to install the PI50 software* on page 103
- *How to obtain the PI50 license* on page 104
- *How to upgrade the PI50 software* on page 104
- *How to remove the PI50 software* on page 105

How to install the PI50 software

Use this procedure if you need to install the software on a computer.

Note that minimum hardware and software requirements must be met by the computer.

1 Power up the computer.

2 Insert the PI50 CD-ROM.

If your computer is not fitted with a CD or DVD drive, copy the files from the CD to a USB memory stick.

3 Observe that the installation program opens.

If the installation program does not start automatically, use a file manager to access the CD or USB memory stick.

Double-click on the **Setup.exe** file to start the installation.

4 Allow the installation program to run. Follow the instructions provided.

5 Once the installation has been completed, double-click the program icon on the desktop to start the application.

6 If you use **Windows 7** operating system:

a Observe that **Windows 7 Firewall** will open a dialog requesting information about the network.

b Select *Public*, and click **Allow access**.

7 Observe the start-up procedure in the *Getting started* chapter.

→ *Power on* on page 16

How to obtain the PI50 license

The PI50 requires a valid license to operate. Without a license you will not be able to communicate with the PI50 Receiver.

Note

If you replace your computer, or if you replace major components inside your computer, you will need a new license code.

We strongly advice you to record the license code for safe keeping. You may for example write it down in the beginning of the reference manual.

1 Double-click the PI50 icon on the desktop to start the application.

2 Click the **Setup** icon under the **Main** menu to open the **Setup** menu.

→ *Setup menu* on page 112

3 Click **Installation** to open the **Installation** sub-menu.

On the sub-menu, click **Software License** to open the **Software License** dialog.

4 Write down the **Hardware ID** provided by the **Software License** dialog.

5 Contact your dealer to order the software license.

Your dealer will need the following information from you to place the order:

- Vessel name and call sign
- Vessel type (trawler, purse seiner, etc.)
- Vessel owner's name, address and contact information
- Hardware ID

6 When the software license is returned to you, start the PI50, open the **Software License** dialog, and click **Enter Licence String**.

7 Write down the code, and click **Ok**.

8 Click **OK** to save the current settings and close the dialog.

How to upgrade the PI50 software

Use this procedure if you wish to reinstall the software, or receive a new CD-ROM with a software upgrade.

1 Observe the procedure for software installation.

→ *How to install the PI50 software* on page 103

Unless you have made any hardware changes on your computer, the existing software license will be used.

How to remove the PI50 software

You may wish to remove the PI50 software from your computer.

1 Observe the operating system's functionality for software removal.

The menu system

Menu navigation employed by the PI50 is similar to the other Kongsberg Maritime applications which follow the new user interface standards developed by Kongsberg Maritime.

The main menu is by default located at the right side of the screen. By means of dedicated icons at the bottom of the main menu, you can open and close the relevant sub-menus. Menu choices shown in dark colours are not available for the current operation or operational mode.

Topics

- *About menus and buttons* on page 106
- *Button types* on page 107
- *Main menu* on page 109
- *Operation menu* on page 110
- *Display menu* on page 111
- *Setup menu* on page 112

About menus and buttons

The selection of operational parameters on the PI50 is done using a tree structure with a main menu, a set of secondary menus, and several menu buttons. Some of the menu buttons open dialogs or miniature menus to provide additional parameters.

The text in the buttons can be changed to suit your preference using the **Language** button on the **Display** sub-menu.

→ *How to select menu language* on page 69

1 The **Main** menu provides the parameters most frequently used during normal operation.

2 The **Operation** menu controls the main operational parameters.

3 The **Display** menu controls the visual aspects of the system, such as parameters related to the display presentation.

4 The **Setup** menu allows you to control the configuration of the signal processing, as well as system installation and maintenance, and the interfaces to peripheral devices.

Figure 41 Sub-menu icons

From left:

- **Operation** menu
- **Display** menu
- **Setup** menu

Button types

Each menu contains several menu buttons. Each button shows the function of the button, some of them also display the current parameter setting. The majority of the buttons in each menu provide one or more of these functions:

- You can increase and decrease parameter values by clicking the [+] and [–] fields on the button.
- You can change parameter values by clicking on the button, holding the mouse depressed, and then moving the cursor sideways.
- You can change parameter values by means of the scroll wheel on the mouse or trackball.
- You can enter parameter values from the keyboard (if you have one).
- You can select parameter value from the button's sub-menu.
- You can open a dedicated dialog.

How to select a numerical parameter using the +/- buttons

1 Move the cursor to either side of the button, and observe that the background colour changes.

a Click on the left side of the button to decrease the numerical value.

b Click on the right side of the button to increase the numerical value.

How to select a numerical parameter by moving the cursor horizontally

1 Place the cursor on the middle of the button.

2 Click and hold the left mouse button depressed.

3 Move the cursor horizontally: left to decrease the parameter value, or right to increase it.

4 Release the mouse button when the requested value is shown.

How to select a numerical parameter by means of the scroll wheel

1 Place the cursor on the middle of the button.

2 Spin the scroll wheel in either direction to increase or decrease the parameter value.

3 Release the scroll wheel when the requested value is shown.

How to select a numerical parameter using the keyboard

1 Click the middle section of the button to open a text field.

2 Enter the numerical value into the text field.

If the numerical value exceeds the permitted range for the parameter, the frame in the text field will be red. You will then not be able to enter the value.

3 Press the **Enter** key.

How to select a parameter using a sub-menu

1 Click the middle section of the button to open a sub-menu, then click the requested parameter value.

The chosen value is applied, and the sub-menu is automatically closed.

2 Whenever applicable, you can also access the sub-menu by clicking the left and right side of the button, but this method will not show you the menu choices.

a Click on the left side of the button to select a lower sub-menu choice.

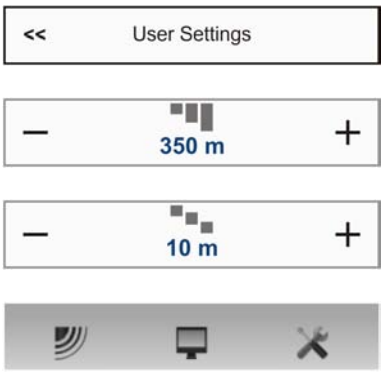
b Click on the right side of the button to select a higher sub-menu choice.

How to select parameters using a dialog

1 Click anywhere on the button to open a separate dialog.

Main menu

[6]The following functions and parameters are available from the **Main** menu.



1 The **User Settings** dialog allows you to save the current user settings (parameter selections), and to retrieve previously saved factory or user settings.

2 The **Range** function allows you to specify the maximum range of the sensors related to physical length or depth measurements. The range is defined from a selected start range, and in horizontal or vertical direction to a value exceeding the bottom depth or the location of the sensor. Use this setting together with the **Start Range** parameter to set up the depth or distance scales in the history field.

3 The **Start Range** function allows you to specify the start value for the depth or distance presentation in the sensor's trend view. Use this setting together with the **Range** parameter to set up the depth or distance scales in the trend view.

The bottom of the **Main** menu holds the icons for the sub-menus. Click on one of these icons to open the requested sub-menu.

Menu button

On the **Title bar**, click once on the **Menu** button to hide the menu.

Click one more time to bring the menu back again.

When the menu is hidden, it will temporarily be shown on the left and right hand side of the display if you move the cursor to that position.

6. elm_c0011-002-002_[container]_section introduction_main_menu.xml

Operation menu

The following functions and parameters are available from the **Operation** menu.

Click once on the icon under the **Main** menu to open the **Operation** menu. Click one more time on the icon to close the menu.

1 The **Sensor Filter** can be used if you have problems with the reception. It will average the data received from the sensors.

The default setting of the Sensor Filter is *Light*.

2 The **Catch/Bottom Filter** is used to restrict the change of state from the PI Catch and PI Bottom Contact sensors to reduce jitter in the presentation.

The default setting of the Catch/Bottom Filter is *Light*.

3 The **Multipath Filter** is designed to remedy for reflections, spikes and time-lag in the sensor data. These problems may occur if neighbouring channels are used, or if the PI50 is disturbed by other hydroacoustic systems in use on own or other vessels.

The default setting of the Multipath Filter is *On*.

4 The **Reset Counters** functions allows you to reset the built-in timer function.

Display menu

The following functions and parameters are available from the **Display** menu.

Click once on the icon under the **Main** menu to open the **Display** menu. Click one more time on the icon to close the menu.

1 The **Palette** function allows you to change the main colour scheme of the PI50 presentation.

2 The purpose of the **Screen Brightness** function is to adjust the intensity of the light given off by the display.

3 The purpose of the **Units** dialog is to control the unit of measurements used by the PI50.

4 The purpose of the **Language** function is to select the language to be used on the menus.

5 The **Status Display** provides an overview of the current hydro-acoustical conditions.

6 The **Trend History Length** function allows you to adjust the horizontal resolution of the trend presentations.

7 The purpose of the **Display Options** dialog is to control the location of the menu, and which information to be provided on the **Title Bar** and the **Taskbar**.

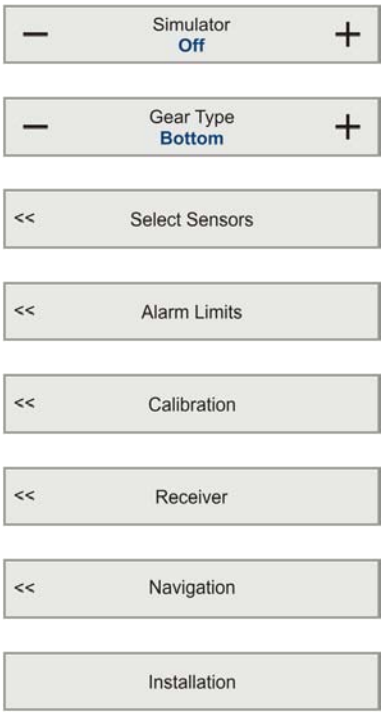
8 The **Screen Captures** function allows you to access the screen captures you have created using the **Screen Capture** function on the **Title Bar**.

9 The purpose of the **About** dialog is provide you with the current PI50 software version.

Setup menu

The following functions and parameters are available from the **Setup** menu.

Click once on the icon under the **Main** menu to open the **Setup** menu. Click one more time on the icon to close the menu.



1 The **Simulator** will provide artificial data to support hands-on PI50 training.

2 The **Gear Type** function allows you to set up the PI50 to work with either a pelagic or a bottom trawl.

3 The **Select Sensors** dialog allows you to define which sensors you will use to monitor your gear.

4 The **Alarm Limits** dialog allows you to define alarms related to the information provided by the PI sensors.

5 The **Calibration** dialog allows you to start automatic calibration of the depth sensors.

6 The **Receiver** dialog allows you to set up the detailed communication parameters, and to "fine tune" the receiver circuitry for optimal performance in various sea conditions and for various gear types.

7 The **Navigation** dialog controls how the PI50 receives information from external peripherals, such as navigation and compass gyro systems.

8 The **Installation** button opens a sub-menu with two choices. You can set up the inputs and outputs from peripheral devices, and administrate the software license.

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